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Assessment of Patients' Knowledge and Attitude Regarding Pulmonary Tuberculosis

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Abstract

Introduction: Tuberculosis (TB) is an infectious disease which is transmitted through air; TB is a public health priority in Sudan which is a major cause of morbidity and mortality in Sudan, the present study aimed to assess Patients' Knowledge and Attitudes regarding nursing care in tuberculosis Sudanese patients. *Methods*: A descriptive cross sectional hospital based study conducted in Bahri teaching hospital and alshaab teaching hospital, Khartoum- Sudan, between Septembers to November 2014. The sample size consisted of 110 patients' from the tuberculosis units, Data were collected by using questionnaire designed for the study. Analysis was performed by statistical package for social sciences (SPSS version 20). *Results*: Of 110 patients interviewed, results revealed that only (18.2%) of the study sample know the definition of tuberculosis, and (56.4%) of them responded correctly regarding causes of tuberculosis, (20.0%) of the study sample regarding mode of transmission of tuberculosis, and (77.3%) of them responded with correctly answers regarding period for treatment tuberculosis, and (40.0%) of the study sample responded correctly answers regarding to attitude of eating with family member and (32.7%) of them responded correctly answers regarding stopped medication due to feeling of worse, and (39.1%) of the study sample responded correctly stated regarding that medication are better and (40.0%) of they stopped, (40.9%) of them responded correctly regarding they did not get worry after having the tuberculosis, and (46.4) of the study sample responded correct stated regarding that care of tuberculosis (cover sputum, avoid crowded). the respondents have attitudes towards the health facilities and health care provided. Attitude to treatment was not satisfactory. *Conclusion*: The study concluded that patients 'knowledge and attitude regarding tuberculosis are inadequate, it recommended that periodic health education to patient and their families about tuberculosis care, should be done more research on the area to identify the factors that affecting non adherence to treatment and care of tuberculosis during the disease.

Keywords

Tuberculosis, Knowledge, Attitudes, Nursing, Sudan

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1. Introduction

Tuberculosis (TB) is one of the major public health threats, competing with the human immunodeficiency virus (HIV) as the cause of death due to infectious diseases worldwide. Although a declining trend in TB incidence, prevalence and mortality has been observed over the last decade, elimination of the disease at global level is still out of reach, and massive resource investment is still required. TB is a poverty-related disease which disproportionately affects the poorest, the most vulnerable and marginalized population groups wherever it occurs. Improving access to diagnosis and care, the basic requirements in the fight against TB, are particularly challenging in these persons. Besides, TB control cannot be carried out without setting up an effective surveillance

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system in order to define the course of the epidemic and assess the impact of control measures on the disease. Hence, TB national programs must devote significant resources to the disease-specific recording and reporting system. Routine surveillance systems represent the best method for drug resistance assessment and monitoring, though high-quality data can be generated only by the allocation of significant resources. The increasing number of detected multidrug-resistant forms is among the current most frightening issues, requiring a strong and comprehensive commitment in terms of funds allocation, research promotion and field implementation of new tools and protocols. Tuberculosis (TB) is a major public health concern worldwide: despite a regular, although slow, decline in incidence over the last decade, as many as 8.6 million new cases and 1.3 million deaths were estimated to have occurred in 2012. Tuberculosis (TB) remains a major global health problem. It causes ill health among millions of people and ranks as the second leading cause of death from an infectious disease worldwide after human immunodeficiency virus (HIV) [1]. There were 8.6 million new TB cases in 2012 and 1.3 million TB deaths (just under 10 million among HIV negative people and 0.3 million HIV – associated TB deaths). Case-notification rates from countries with a high prevalence of tuberculosis suggest that TB may be less frequent among females. Globally, the ratio of female to male TB cases notified is 1/1·5–2·1 [2]. Females have been found to have higher TB mortality rates from birth and through the age of 29 [3]. Different explanations have been suggested to explain why women of reproductive age would have a higher progression from infection to active TB and also a higher mortality rate. An argument questioning these findings has been that women are more likely to use health services during their reproductive years, and thus are more likely to be diagnosed with TB at this time in life. [4]–[5].

According to the World Health Organization (WHO), about 8.6 million cases (8.3–9.0 million) were estimated to have occurred in 2012, approximately 2.9 of whom were in women. Most cases are estimated to be in Asia and Africa (58% and 27% respectively), with the highest incidence in India (range 2.0–2.4 million) and China (0.9 − 1.1 million), together accounting for 38% of the total number of cases. (6)

2. Methods

This is a descriptive cross-sectional hospital based study. Aimed to assess patients knowledge and attitudes regarding care of tuberculosis disease in bahri teaching hospital and alshaab hospital, Khartoum–Sudan which. The study population included all adult patients diagnosed tuberculosis attend for treatment or follow up between Septembers to November 2014. The sample size consisted of 110 patient's from the tuberculosis units were selected as total coverage, patients meet the inclusion criteria were included in the study if the Patients diagnosed as having tuberculosis and on treatment in the selected centre sand Age group of 18 years and above and the patient were exclude from the study if Severely ill patients and Children less than 18 years old. The date was collected used questionnaires designed by researcher, every one of respondent applied by both himself administrate and administrate to collect the data from study subjects, the questionnaires contain personal data (age, educational level, occupation, family income), definition ,causes, transmission ,control of infection and complication. Analysis was performed by statistical package for social sciences (SPSS version 20).

To approval and establishment of study the researcher take letter from the faculty of nursing sciences to director of the two hospitals. Verbal consent from interviewed persons was also taken after explaining the study and its objectives to them. Confidentiality was given consideration and the information is used for the research purpose only.

3. Result

Among of 110 patients participate in the present study was show: that: most respondents were males (77.3%), unemployed (60.0%) and of moderate education (Illiterate and primary). The patient's economic status is moderate economic statues (47.3%). poor economic is (27.3%), good economic is (25.5%). Knowledge about the home characteristics about water and electrical, ventilation 70.9% and crawdad is very bad (75.5%), because the poor of not attended program about tuberculosis (83.6%) Knowledge about the definition of the disease (18.2%) and Knowledge about the patients in the study know that there is a pulmonary type of the disease (78.2%), but only 21.8% know that there are 2 types (pulmonary and extra pulmonary). Concerning Knowledge respondents about the causes of disease and mode transmission, The most patients is do not know, Only 56.4% of the respondents know that the disease is caused by infection (microbe). Other causes mentioned included stress 9.1 %. and smoking (10.0%), the results finding was that 75.5% of the study sample that don't know of transmission of disease, and other mentioned 4.5% of sample study that sharing material, 20.0% of airborne. knowledge regarding the incubation period of the diseases that result is 60.0% of the study mentioned month and others men tied six week (28.2%), Figure (6). Knowledge regarding to the signs and symptoms of the disease was that 62.7% -85.5% of the study that mentioned these signs and symptoms and 14.5%-37.3% is not aware of these signs and symptoms, table(4). Knowledge regarding course of treatment for tuberculosis the

study found that about (77.3%) know the duration of treatment is six month., and now idea is (6.4%), eight month is (13.6%) respectively, Figure (7). The knowledge about prevention of disease the result was found about (39.1%) mentiend vaccine and adequate nutrition is (6.4%), table(5), and Concerning knowledge regarding anti tuberculosis the finding result was (70.9%) no idea of medication and the other patients mentioned rifampicin (16.4%), pyrazinamide (0.9%), ethambutol (3.6%), figure (8).

Attitude towards eating with family members was positive in (40.0%) and for screening contacts in (40.9%), and Adherence of tuberculosis treatment, the finding result is that ranged 29.1-47.3 % of the study sample that is Adherence of tuberculosis treatment and stopped medication, table (7).

According to their Reaction regarding the disease, that (37.3) % of the study sample that stigma is the most common reaction to the disease, fear of death (26.4%), fear of transmission (18.2%) and (2.7%) not worried.

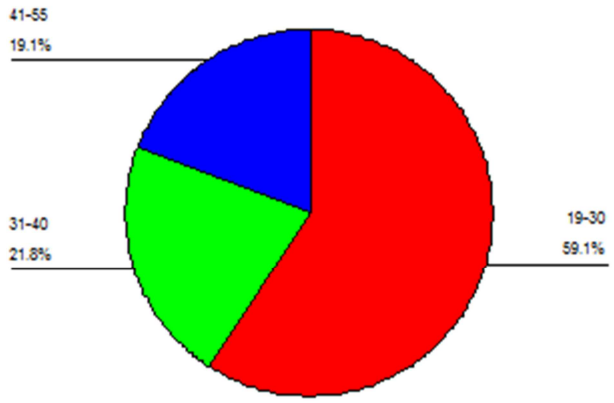

Figure (1). Distribution of the study sample according to their age

The illiterate was that 59.1%of the study sample at age ranged from 19-30.

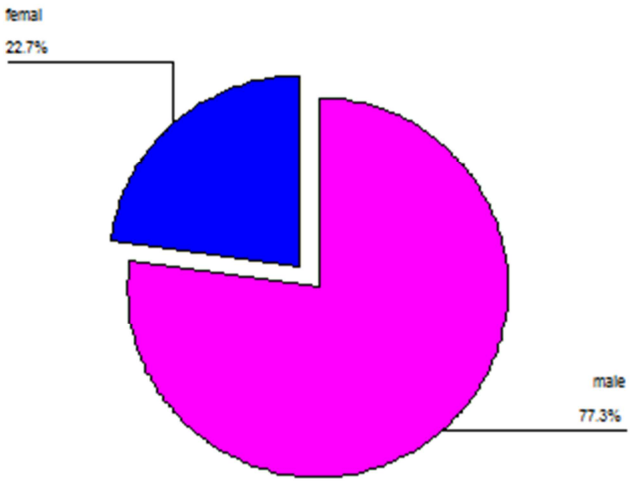

Figure (2). Distribution of the study sample according to their gender.

The figure illustrates that 77.3% of the study sample were males.

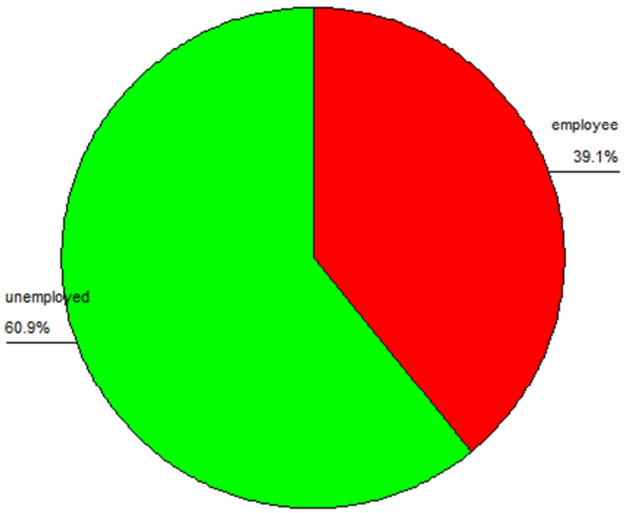

Figure (3). Distribution of the study sample according to their occupation.

The figure illustrates that 60.9% of the study sample were unemployed.

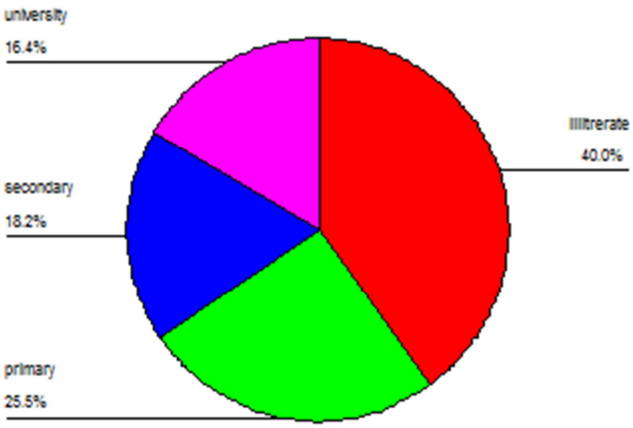

Figure (4). Distribution of the study sample according to their level of education.

The figure illustrate that 25.5%, 40.0% of the study sample were illiterates and had primary education respectively

Table (1). Distribution of the study sample according to their home conditions and crowded index .no= 110.

Home Conditions	Frequency	Percentage
Good home characteristics	78	70.9%
Bad home characteristics	32	29.1%
Total	110	100%
Crowding	83	75.5%
Not crowding	27	24.5%
Total	110	100%

The table above illustrates the 70.9% of the study sample had good home conditions and only 24.5% of them had non-

crowded homes.

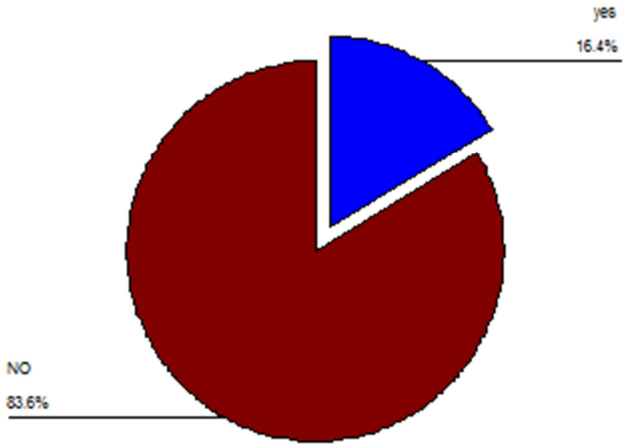

Figure (5). Distribution of the study sample according to attendance of education program.

The figure illustrates that 83.6% of the study sample did not know of education program of about tuberculosis.

Table (2). Distribution of the study sample according to their knowledge about the definition of tuberculosis. No= 110.

	Correct Answers		In correct Answers		Total	
	NO	%	NO	%	NO	%
Definition of Tuberculosis	20	18.2	90	81.8	110	100%

The above table illustrate that 81.8% of the study sample did not know the correct of definition of disease.

Table (3). Distribution of the study sample according to their knowledge regarding the causes of disease and mode of transmission no=110.

	Frequency	Percentage
Causes		
Stress	10	9.1
Smoking	11	10.0
Place of work	10	9.1
Infection(microbe)	17	15.5
Don't know	62	56.4
Total	110	100%
Mode of transmission		
Air borne	22	20.0
Sharing materials	5	4.5
Don't know	83	75.5
Total	110	100%

The table shown above illustrates that 56.4% of the study sample did not know of causes of disease, and 75.5% of them did not know the mood of disease transmission.

Table (4). Distribution of the study sample according to their knowledge regarding the signs and symptoms of the disease .no=110.

Persistent cough	Frequency	Percentage
Yes	94	85.5
NO	16	14.5
Night sweat		
Yes	89	80.9
NO	21	19.1
Unexplained weight loss		
Yes	83	75.5
No	27	24.5
Unexplained tiredness		
Yes	79	71.8
NO	31	28.2
Persistent fever		
Yes	69	62.7
No	41	37.3

The table illustrates that 62.7% -85.5 % of the study sample mentioned that they had these signs and symptoms and 14.5%-37.3% did not have these signs and symptoms.

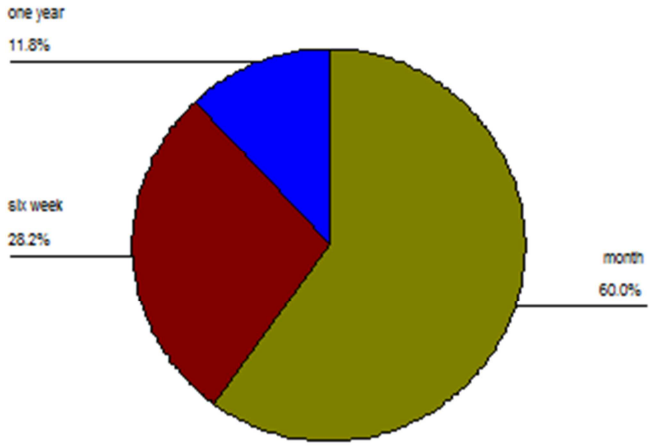

Figure (6). Distribution of the study sample according to their knowledge regarding the incubation period of the disease.

The figure illustrates that 60.0% of the study sample mentioned that it is a month and others mentioned that it is six week (28.2%).

Table (5). Distribution of the study sample according to knowledge of methods of prevention of the disease and tuberculosis patient's care, no=110.

	Frequency	Percentage%
Methods of prevention		
Vaccine	43	39.1
Good ventilation	33	30.1
Avoiding crowds	20	18.2
Adequate treatment	7	6.4
Adequate nutrition	7	6.4
Total	110	100%
Tuberculosis patient's care		
Cover sputum container	51	46.4
Personal hygiene	46	41.8
Ventilation	13	11.8
Total	110	100%

The above table illustrates that 39.1% of the study sample mentioned that vaccine is the most common method in prevention of the disease, then good ventilation (30.1%), avoiding crowds, (18.2%) and only (46.4%) of them had cover sputum containers .

Figure (7). Distribution of the study sample according to their knowledge regarding the duration of treatment.

Regarding the duration of treatment, the figure illustrates that 77.3% of the study sample mentioned six months, and then eight months (13.6%), no idea (6.4%).

Table (6). Distribution of the study sample according to their knowledge regarding life style, nutrition and economic statues, no=110.

	Frequency	Percentage%
Protein-vegetable-fruit-fibre	64	58.2
fibre	23	20.9
Vegetable	14	12.7
fruit	9	8.2
Total	110	100%
Good economic status	28	25.5
Moderate economic status	52	47.3
Poor economic status	30	27.3
Total	110	100%

Table (6) shows that 58.2 % of the study sample mentioned that protein-vegetable -fruit-fiber and 47.3% only had moderate economic status.

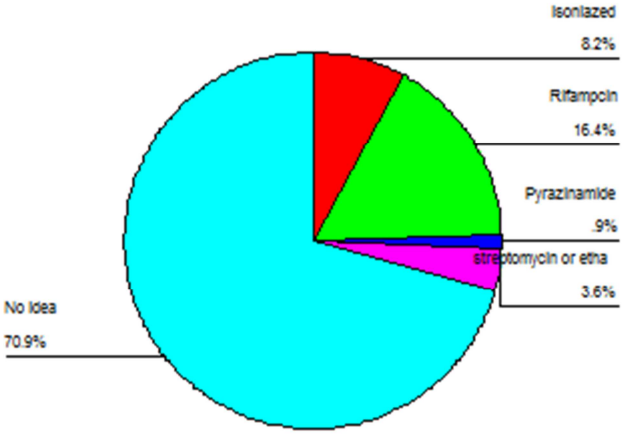

Figure (8). Distribution of the study sample according to their knowledge regarding the anti-tuberculosis medication.

Illustrate that 70.9 % of the study sample that is no idea of anti tuberculosis, and the other patients mentioned rifampicin (16.4%), pyrazinamide (0.9%), ethambutol (3.6%).

Table (7). Distribution of the study sample according to their attitude regarding the aspects of tuberculosis.

Attitude	Agree		Disagree		Total	
	NO	%	NO	%	NO	%
Do you sometimes forget to take your medication?	21	19.1	89	80.9	110	100%
Do you take medication regularly?	12	10.9	98	89.1	110	100%
Do you think that medication effective?	9	8.2	101	91.8	110	100%
Can tuberculosis be cured with treatment?	22	22.0	88	80.0	110	100%
Complications of tuberculosis? 1.cor pulmonary 2.fibrosis 3.bronchiectasis 4.aspergilloma	52	47.3	58	52.7	110	100%
can a patient with Tuberculosis eat together with the other family members	44	40.0	66	60.0	110	100%
Do family contacts need to be screened for tuberculosis?	45	40.9	65	59.1	110	100%
The tuberculosis spread of person poor hygiene?	42	38.2	68	61.8	110	100%
The patients must go to the canter for follow up regularly?	32	29.1	78	70.9	110	100%
Have you ever cut back or stopped taking your medication because you felt better?	36	32.7	74	67.3	110	100%
Can treatment be discontinued once your symptoms have resolved?	44	40.0	66	60.0	110	100%
Do you ever feel hassled about sticking to your treatment?	43	39.1	67	60.9	110	100%

Table (8). Distribution of the study sample according to their reaction regarding the disease. No. =110.

Reaction after knowing the disease	Number	Per cent
Not to worry	3	2.7
Shock, disbelieve	8	7.3
Fear of transmission to others	20	18.2
Fear of losing job	2	1.8
Fear of death	29	26.4
Stigma	41	37.3
Anxiety from non-treatment	5	4.5
Dislike taking medications	1	0.9
Feeling better than other diseases (e.g. Cancer)	1	0.9
Total	110	100%

Table (8) shows that that the most common reactions to the disease were stigma (37.3%), fear of death (26.4%) and fear of transmission (18.2%).

4. Discussion

Tuberculosis is a major contributor to global burden of disease. It is one among the most serious infectious causes of all global mortality and morbidity. It causes a great deal of ill health and enormous burden on population of most low and middle income countries. This is a descriptive Hospital based-study was conducted in *Alshaab* and *Bahry* teaching hospitals with the main aim to assess patients' knowledge and attitude regarding care of tuberculosis. A total of 110 patients were included in this study as a total coverage during the period of study. The study was conducted aimed to know knowledge about disease, causes, transmission, treatment, and preventive measures as good indicators for compliance to treatment regimen of the tuberculosis. The researchers went through the results and elicit the following facts and information: good general lay knowledge of tuberculosis (TB), its cause and treatment is considered important for both prompt healthcare seeking and adherence to treatment. Therefore, early detection of tuberculosis depends on whether patients could perceive their needs of seeking health-care for tuberculosis

The main findings of this study were that most respondents in this study were males (77.3%), unemployed (60.0%) and of moderate education (either illiterate or of primary level) as shown in Figures (2), (3) and (4). Almost half patients were with moderate economic status (47.3%), only (27.3%) had bad economic status as shown in Table (6). Knowledge about home conditions including water and electricity, ventilation (70.9%) and crowd is very bad (75.5%), most of the patients did not attended a program about tuberculosis (83.6%) as show in Table (1) and Figure (5). Knowledge about the definition of the disease was low (18.2%). Concerning respondents' Knowledge about the causes of disease and mode transmission, most of them did not know. Only half (56.4%) of the respondents know that the disease is caused by infection (microbe). Other causes mentioned included stress (9.1 %) and smoking (10.0%). Findings also include that 75.5% of the study sample did not know the mode of transmission of tuberculosis, as 4.5% of sample study mentioned that it is the sharing of materials while 20.0% of them said it is airborne disease, as shown in Table(3) .

The result is nearly similar to results of (Gfatm, E., 2010) who stated in his study that concerning knowledge about causes and mode of transmission was low. Only 5% of the respondents mentioned sharing eating utensils as a cause of the disease , and 21% said the disease is transmitted by air droplets (through respiration). In the Moroccan region study, microbial cause was known to 17.2% of respondents.

Knowledge regarding the incubation period of the diseases the result was that 60.0% of the study mentioned one month and others mentioned six weeks (28.2%) as shown in Figure (4-6). As for knowledge regarding to the signs and symptoms of the disease, it was found that 62.7% -85.5% of the study sample mentioned signs and symptoms and 14.5%-37.3% were not aware of these signs and symptoms, as shown in Table(4). Regarding knowledge about the course of treatment for tuberculosis, the study found that 77.3% knew the duration of treatment as six months, and (6.4%) had no idea, eight month were given by(13.6%) of the respondents as shown in Figure (7). Concerning knowledge about prevention of tuberculosis, the result found that (39.1%) of the the study sample mentiend vaccine and is (6.4%) mentioned adequate nutrition as shown in Table (5). Concerning knowledge regarding anti tuberculosis, the finding result was (70.9%) had no idea of medication and the other patients mentioned rifampicin (16.4%), pyrazinamide (0.9%), ethambutol (3.6%), as shown in Figure (8).

These results are different from results of (Netto, R, 2008), a study was done to assess factors associated with default from treatment among tuberculosis patients in Nairobi province, Kenya. It was a case control study. The study found that of 945 defaulters, 22.7% (215) and 20.4% (193) abandoned treatment within first and second months (intensive phase) of treatment respectively. Among 120 defaulters interviewed, 16.7% (20) attributed their default to ignorance, 12.5% (15) to traveling away from treatment site, 11.7% (14) to feeling better and 10.8% (13) to side effects.

Attitude towards eating with family members was positive in (40.0%) and for screening contacts in (40.9%), and adherence of tuberculosis treatment, the result finding is that a range of 29.1% - 47.3 % of the study sample adhered to tuberculosis treatment and stopped medication respectively,

as shown in Table(7).

These results are similar to the results of (Netto, 2008) Nairobi province the results study concluded that the adherence to the long course of tuberculosis treatment is a complex, dynamic phenomenon with wide range (32-53%) of factors impacting on treatment-taking behaviour. Patients' adherence to their medication regimens was influenced by the interaction of a number of these factors. According to their reaction regarding the disease ,that (37.3) % of the study sample that stigma is the most common reaction to the disease, fear of death (26.4%),f ear of transmission (18.2%) and (2.7%) not worried , as shown Table (8).

These results are different from results of (Mohammed Ali, 2009), in Sudan who stated that the reaction of the patient after getting the disease, 45.3% were not worried, and stigma (40%), and (14.6%) fear of transmission results are the similar to results of ,the few were shocked or had fear of some degree (poor)

5. Conclusion

Based on the result of the present study it concluded that knowledge among tuberculosis Sudanese patients was generally inadequate about definition of disease ,Type, incubation ,signs and symptoms, methods of prevention, Anti tuberculosis ,low economic in life style, causes of the disease, and methods of transmission.

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