

## PATIENTS' AWARENESS, KNOWLEDGE AND BEHAVIOR TOWARDS TUBERCULOSIS

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### **Abstract**

Tuberculosis is a major health problem worldwide, as one third of the world population is infected with *M. tuberculosis*. It is still a major cause of morbidity and death and a major public health concern in Sudan. The disease is characterized by public ignorance, high stigma and lack of awareness. This study was done in Kassala Teaching Hospital and Health centers in Kassala State. The aim of the study was to determine the awareness and knowledge of tuberculosis among TB patients. Cross- sectional study was conducted among 340 TB patients in health centers and chest department, Kassala Teaching Hospital. They were fully interviewed using a structured questionnaire.

The study revealed that 93.5% of patients did not know that they were infected with TB when the symptoms first appeared. 76.2% of them believed that, TB was communicable disease and 69.4% understood the mode of transmission. 51.8% of patients practiced self medication outside the health system before diagnosis. Health- seeking delay (more than three weeks) was observed among 87.4% of the patients after setting most of TB symptoms. 72.1% of the patients did not feel threaten their families. Preventive methods which are known to only 30.1% of patients were practiced by 27.9%. In spite of knowledge about infectious nature of TB, curability and the dangers of treatment discontinuation, patients were unaware of delay of seeking medical care and preventive measures. These behaviors will increase the spread of disease and interrupt its control so health education is necessary by counseling and through mass media



## وعي وسلوك ومعرفة مرضى السل نحو المرض

### خلاصة البحث:

السل مرض معد واسع الانتشار إذ يصيب ثلث سكان العالم و يشكل مشكلة رئيسية في الدول النامية بما فيها السودان. أجريت هذه الدراسة المقطعية على 340 شخصاً من مرضى السل بمستشفى كسلا التعليمي والمراكز الصحية بولاية كسلا (2009- 2010). أجريت هذه الدراسة لتوضيح مدى معرفة ووعي مرضى السل بالمرض.

أوضحت هذه الدراسة أن طبيعة المرض لم تكن معروفة لدى 93.5% من المرضى بالرغم من معرفتهم بطرق انتشاره (69.4%) ، كيفية تشخيصه و علاجه كما أنهم يعرفون أنه مرض معد (76.2%) . لوحظ استخدام المضادات الحيوية (51.8%) قبل التشخيص المرضي و التأخر في البحث عن العلاج (87.4%) . و أن هؤلاء المرضى لا يدركون أنهم مصدر عدوى لاسرهم (72.1%) ولا يتبعون طرق الوقاية والحماية من المرض.

بالرغم من المعرفة بالمرض وطرق انتقاله و علاجه بالإضافة لما يترتب على انقطاعه إلا ان المرضى لا يهتمون بمعرفة طرق الوقاية و كيفية الحماية منه. عليه لا بد من تكثيف التوعية الصحية عبر وسائل الاعلام المختلفة.



## Introduction

Tuberculosis (TB) is a major health problem worldwide, as one third of the world population is infected with *M. tuberculosis*, (Mangesho et al 2007, WHO 2008). Annually, 8 million people become ill with TB, and 2 million people die from the disease worldwide (Raviglione *et al.*, 1995). Thus, TB is still a major cause of morbidity and death.

Tuberculosis (TB) is a major public health concern in Sudan. According to the WHO, Sudan alone carries 15% of the TB burden in the Eastern Mediterranean Region (UNDP 2011). The notified cases of TB in Northern Sudan States (including Kassala State) were on the increase (19817 in 2006 to 21680 in 2009) with low case detection rate (Sudan National TB control programme).

High stigma and lack of awareness could contribute to low detection rate of infection (Abebe et al 2010). This study was done in Kassala Teaching Hospital and Health centers in Kassala State to determine the knowledge and awareness of tuberculosis among TB patients.

### Subjects and method:

Cross-sectional study was conducted from Dec. 2009- to Dec. 2010. The study was targeting TB patients of age above 12 years and on TB treatment. The sampling type was simple random. Based on prevalence knowledge of 50%, bound error 07% and confidence interval 95%, sample size was calculated as 196 and taken 340 (Khuwaja 2005).

### Data collection:

340 patients were interviewed using structured questionnaire. The questionnaire included information about background characteristics of



patients, previous history of infection. It covered knowledge and awareness of TB through questions about: self medication, expectancy of TB disease, duration of symptoms, method of diagnosis and transmission, curability of TB and the duration of treatment. Also it covered patients' attitudes towards family and other contacts regarding prevention of disease transmission.

### **Ethical consideration:**

Ethical approval for this study was obtained from Kassala State, Ethical Committee. Informed consent was obtained verbally from patients. Authors declared no conflict of interest in this study.

### **Results:**

Table (1) provides the demographic characteristics of 340 TB patients under treatment. 44.4% were males and 55.6% were females. Their age ranged between 12& 87 years with a mean 38years and standard deviation of  $\pm 17.4$ . 66.2% were married. Most (50.6%) of the patients belonged to Beja tribes. Their education level varied; (51.5%), were illiterate, (22.1%) had informal education, (25.9%) had a general education and only 0.6% had higher education.



**Table (1):  
Socio-demographic characteristic of 340 tuberculosis patients at  
Kassala State**

Characteristic	No	%
Total	340	100.0
<b>Age group</b>		
<15	22	06.5
15-29	87	25.6
30-44	98	28.8
45-59	69	20.3
60+	64	18.8
<b>Sex</b>		
Male	151	44.4
Female	189	55.6
<b>Marital status</b>		
Married	225	66.2
Single	89	26.2
Divorced	16	04.7
Widow	10	02.9
<b>Ethnicity:</b>		
Beja	172	50.6
West Africans	65	19.1
Others	103	30.3
<b>Education:</b>		
Illiterate	175	51.5
Informal education	75	22.1
General education	88	25.9
Higher education	2	0.6
<b>Previous history of TB</b>	<b>83</b>	<b>24.4</b>



### Knowledge, Attitudes and practice:

As shown in table (2) 76.2% of the patients understood the infectious nature of disease, and 51.8% practiced self medication before attending to chest department, most (58%) of those who did so were female. 22 (6.5%) of the patients expected their disease to be TB, among those (16 /22) had a previous history of TB infection.

Method of diagnosis, transmission and curability of disease were known to 53.2%, 69.4% and 87.6% respectively. Delay of health- seeking (more than three weeks) was observed among 87.4%. Danger of treatment discontinuation was known to 88.5% while preventive measures was known to only 30.9% and used by 27.9%

**Table (2): Knowledge, attitude and practice of 340 tuberculosis patients at Kassala about TB**

Variable	No.	%
	340	100.0
<b>Knowledge:</b>		
<i>Expected the disease was TB</i>	22	06.5
Infectious nature of disease	259	76.2
Method of diagnosis:	181	53.2
Methods of transmission:	236	69.4
Curability of disease:	298	87.6
Duration of treatment	270	79.4
Dangers of treatment discontinuation:	301	88.5
Knowledge of preventive measures:	105	30.9
<b>Attitude &amp; Practice:</b>		
Delay of seeking medical care	297	87.4
Self medication before diagnosis	176	51.8
Denial of the disease	91	26.8
Use of protective measures towards others	95	27.9



**Discussion:**

In this study (79.9%) of the participants did not know that they were infected with TB and they practiced self medication before seeking diagnosis. This finding was similar to reports of studies conducted in Sudan (Mohamed et al 2007), Tanzania (Mangesho et al 2007), Thailand (Sirinapha, 2009), India (Tobgay 2006) and Ethiopia (Mulenga et al 2010). Self medication was practiced to socioeconomic factors, and the stigma associated with disease (Jittimanee et al 2009). Also, it may contribute to delaying treatment-seeking and increase the transmission of disease. Most of the patients were aware of mode of transmission, unlike the finding of the study carried in Vietnam, which revealed limited knowledge about transmission mode (Hao et al 2003). (76.2%) of the respondents were aware of the infectious nature of TB, curability (87.6%) and also understood the duration of treatment (79.4%). Similar findings were reported in the study carried out in the Philippines (Maria et al 2009), Iraq (Hashim et al 2003) and Tanzania (Mangesho et al 2007), but unlike the result obtained from study carried out in Sudan, which revealed the general unawareness of infective nature of TB and the mode of transmission (Mohammed et al 2007) and Pakistan (Khuwaja & Mobeen 2005). Understanding the infectivity, curability and the duration of treatment of TB encourage the patient to complete the treatment and then interrupt the transmission of disease. The respondents were aware of the different symptoms associated with TB. Despite this, the health- seeking behavior of respondents were not commensurate to their knowledge (in period greater than three weeks), the same finding was reported in the study carried out in Nigeria (Fatregun and



Ejeckam 2010), India (Sanjay et al 2011), Peruvian Amazon (Ford et al 2009) and Ethiopia (Mesfin et al 2005). Delaying-seeking behavior associated with lack of awareness, fear of social isolation that increases the infection in the community. As seen in other studies, knowledge was not the only factor that affected patients' health-seeking (Maria et al 2009), knowledge and practices of preventive measures were important in controlling the disease. In spite of good knowledge about infective nature of the disease and its curability there was poor preventive behavior. The same finding was reported in the study conducted in Ethiopia (Degefa 2006), but differ from the finding of the study conducted in Sudan, that reported the preventive measures was 58.6% among respondents (Mohammed 2007). Lack of awareness and ignorance of disease prevention could lead to increase the positive cases and transmission. As the result of ignorance, patients will not care of adopting control measure in their homes.

### **Conclusion:**

In spite of knowledge about infectious nature of TB, curability and the dangers of treatment discontinuation, patients were unaware of diagnostic delay and preventive measures. These behaviors will increase the spread of disease and interrupt its control so intensive health education is necessary by counseling and through mass media



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