

**ASSESSMENT OF TREATMENT OUTCOME OF PATIENTS WITH TUBERCULOSIS,  
AT TREATMENT CENTERS IN KHARTOUM LOCALITY SUDAN 2015.****<sup>1</sup>Kamal Elbssir\*, <sup>1</sup>Fatima Fadul Ali, <sup>1</sup>Najlaa Siddig Nasir and <sup>2</sup>Ahmed Abu-Rayyan**<sup>1</sup>Faculty of Public Health, Alzaim Alazhari University, Khartoum North, Sudan.<sup>2</sup>Faculty of Public Health and Health Informatics, University of Hail.**\*Correspondence for Author: Dr. Kamal Elbssir Mohammed Ali**

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**ABSTRACT**

This was a (retrospective?) analysis of the treatment outcomes of all TB patients with tuberculosis (TB) registered from January to December 2014 at TB-centers of Khartoum locality- Khartoum- Sudan- 2015. Total coverage of all tuberculosis patients that was registered in the TB registration document at TB treatment centers from January to December in 2014. Information was collected from TB registration document at TB treatment centers to satisfy the objectives of the study. The study showed that the treatment outcome of most study participants was successful (607 completed their anti-TB treatment, 203 cured “%?”), the treatment defaulter, failure, and death rates were 13.7%, 0.3%, and 3.3%, respectively and the overall one-year treatment success rate of the TB patients was 82.7%. The study recommends that this treatment success rate should be maintained and strengthened to achieve the development goal, more attention should be paid to modify the TB registration document to include the residents of patient to facilitate the identification of geographical distribution of TB and further studies are needed to identify possible risk factors for unsuccessful treatment outcome.

**KEYWORDS:** Assessment of Treatment Outcome of Tuberculosis Patients at Khartoum locality Treatment centers- Khartoum- Sudan????**1. INTRODUCTION**

Global burden of TB in the World is estimated in 8.8 million (range, 8.5–9.2 million) incident cases of TB (Table 1) for rates ranging 123.7 to 133.9 cases/100,000 pop. (Table 1); however this can be very different among the WHO Regions in the World, being higher in Africa where those estimates can reach 250.9 to 298.7 cases/100,000 pop. Rates of incidence are important because can show the real population problem of the disease. For ex- ample in South East Asia there are more crude number of cases of TB, estimated in 3.5 million (range, 3.2–3.7 million) incident cases, however the incidence rates are quite lower than in Africa, reaching 177.0 to 204.7 cases/100,000 pop.<sup>[1]</sup>

As has been stated TB is highly endemic in many developing countries, particularly of Africa and Asia highest rates of TB are located. These 22 countries, summarizing 62.9% of the World population (4,321,966,000 pop) concentrated 81.5% of the incident cases of TB in the World (7,169,000 cases), reaching mean incidence rates higher than in the rest of the World, 165.9 cases/100,000pop.<sup>[2]</sup>

Tuberculosis (TB) is a public health priority in Sudan. Through the national TB programme, the Government has been striving to detect cases, provide care to patients

and involve other sectors in control efforts. The country accounts for 15% of the TB burden in the WHO Eastern Mediterranean Region.<sup>[3]</sup>

Incidence of tuberculosis (per 100; 000 people) in Sudan was last measured at 119 in 2010, according to the World Bank. Incidence of tuberculosis is the estimated number of new pulmonary, smear positive, and extra-pulmonary tuberculosis cases.<sup>[3]</sup>

The management of patients with TB should be led by designated manager. Good Quality management starts with the timely and accurate registration of TB cases, and Includes delivering appropriate treatment using standardized regimens of TB Treatments as well as providing support for patients. Good quality management also ensures that patients who miss one or more doses of treatment are quickly followed up, and those contacts, especially children, and others belonging to high-risk groups are investigated or assessed to determine whether they have active TB.<sup>[3]</sup>

You speck more on the burden of the disease, instead of specking on management of the disease “your topic”

## 2. METHODS AND MATERIALS

### 2.1. Study design

This was a retrospective analysis (what does it mean?) of the treatment outcomes of all TB patients registered from January to December in 2014 at TB centers of Khartoum locality- Khartoum- Sudan- 2015.

### 2.2. Study area

Khartoum locality lies between longitudes 37-52O and along latitude 190O. It has a total area of nineteen thousand square kilometers. It is bordered from the North by the Blue Nile in which lies Tuti Island. To the South it borders Jabel Awleya Locality and from the East and North East the Blue Nile. To the West it is bordered by the White Nile. It is connected with Bahri and Omdurman Localities through 8 bridges.

It is considered one of the largest Localities at the national level due to the following reasons: It is the political capital of the country and the home of the federal government headquarters. Health facilities providing TB services as part of the national TB programme or the basic management unit where the TB treatment registration allocated in Khartoum locality, which consists of;

- five referral hospitals (Khartoum, Ibrahim Malik, Sobaa ,AlShaab& Alacademi)
- two hospitals are not referral (Police Military hospital & Jaafar Iben Uof pediatric )
- four Tuberculosis treatment centers (Al-Sajana, Al-lamab, Al-sheikh alburae & Al-shaheed Khalid)

Have you conducted your study in Khartoum locality OR Khartoum treatment centers?

### 2.3. Study Population

All TB patients registered in Khartoum locality in the year 2014.

### 2.4. Sample size and sampling techniques

Total coverage for all tuberculosis patients that registered in the TB registration document at TB treatment centers from January to December in 2014.

What is your study population? Patients OR records on patients? Have you seen patients?

### 2.5. Data-collection techniques

Was (secondary)??? data from TB registration document of TB.

### 2.6. Data collection tools

The information was collected from TB registration document at TB treatment centers to satisfy the research objectives.

### 2.7. Data analysis

Data was analyzed computerized by Microsoft office (Excel). Needs correction.

### 2.8. Ethical Consideration

1. Approval from the Alzaiem Alazhari University????.
2. Approval from ministry of health (Khartoum State).
3. Consent was taken from all participants HOW???

## 3. RESULTS

Forty five 45 [ENGLISH] patients received DOTS (what is DOTS?) at TB centers, 350 at home, while 427 have not received DOTS. Among 217 smear positive patients 158 (72.8%) were cured, 31(14.2%), 3 (1.5%), 22(10.1%), 2 (0.9%) and 1 (0.5%) were treatment completed, transferred out, default, died and failure respectively.

Among 355 smear negative patients 3(0.9%) were cured, 257 (72.2%), 28 (7.9%), 53 (15%) and 14 (4%) were treatment completed, transferred out default, and died respectively. Among 279 extra pulmonary patients 217 (77.8%) were treatment completed, 11 (3.9%), 40 (14.3%), 9 (3.3%) and 2 (0.7%) were transferred out, default, died and failure respectively. Among 29 re-treated cases relapse patients 16 (55.2%) were cured, 7 (24.2%), 5 (17.2%), 1 (3.4%), were treatment completed, transferred out, and default respectively. Among 11 re-treated cases failure patients 4 (36.3%) were cured while 7 (63.7%) were transferred out. Among 29 re-treated cases default patients 14 (48.3%) were cured, 6 (20.7%), 3 (10.3%) and 6 (20.7) were treatment completed, transferred out and default respectively. Among 6 transferred in patients cases 4 (667%) were treatment completed while 2 (33.3%) were transferred out. Among 39 others patients category 8 (20.5%) were cured, 9 (23.1%), 10 (25.5%), 5 (13%) and 7 (17.9%) were treatment completed, transferred out, default and died respectively. Among 1078 tuberculosis patients registered under treatment 203 (18.8%) were cured, 607 (56.3%), 97 (9%), 136 (12.6%), 32 (3%) and 3 (0.3%) were treatment completed, transferred out, default, died and failure respectively. You repeat the word AMONG many times, which is wrong!

The treatment outcome of ~~most~~ (it is not recommended to use such words like “most, more, large etc...” in the result section) study participants was successful (607 completed their anti-TB treatment and 203 cured).

The treatment defaulter, failure, and death rates were 13.7%, 0.3%, and 3.3%, respectively.

The overall one-year treatment success rate of the TB patients was (82.7%).

## 4. DICUSSIOON

In this health institution based (see the study area) retrospective study, information on the treatment outcome and all types of TB across the year of 2014 were assessed in Khartoum locality. Revise the Eng. Languge. The majority of TB patients, 810/981 (82.7%), had successful treatment outcome (cured + treatment completed) which near to meet the target (90%) set in the Global Plan to Stop by 2015 ®.

TB-HIV co infection in present study (2.1%) was lower than in the WHO estimate (39%) in Africa, however the HIV test was done for 476 patients (48%) and this represent the half of HIV detection.(4)???

The death rate of this study (3.3%) was low and this might be due to health professionals working in DOTS clinic of the health centers might reach and advise TB patients who discontinue their Anti-TB treatment. This work in turn might lead to a decrease in death rate. The other reason for low death Rate in the present study might be due to the lower TB-HIV Co-infection (2.1%).<sup>[4]</sup>

The TB treatment failure rate of this study was (0.3%), which was lower than the average (0.7%) TB treatment failure rate from Khartoum state TB annual report.<sup>[4]</sup>

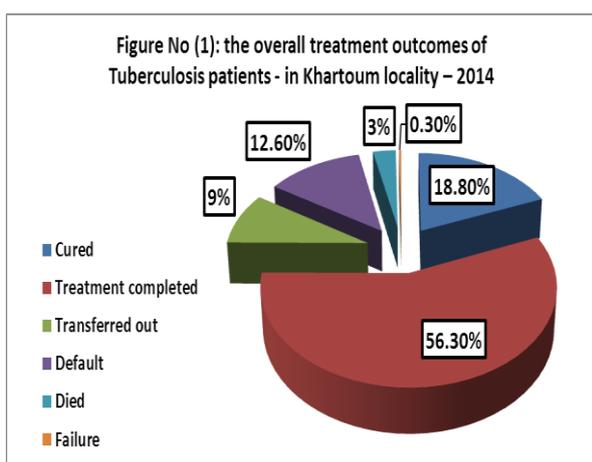


Figure No (1): shows the overall treatment outcomes of Tuberculosis patients - in Khartoum locality – 2014.

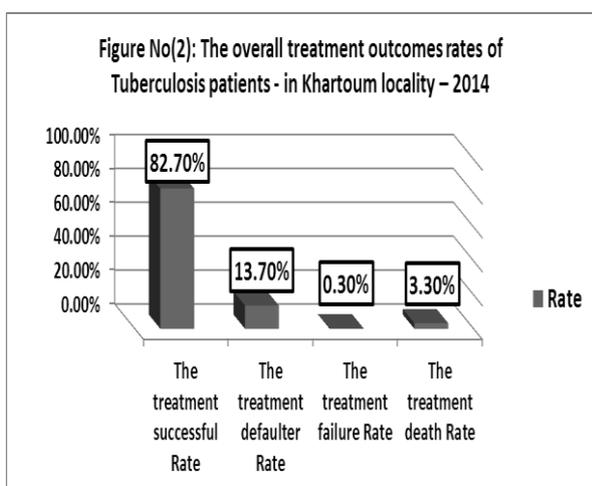


Figure No (2): shows the overall treatment outcomes rates of Tuberculosis patients - in Khartoum locality – 2014.

**5. RECOMMENDATIONS**

1. The treatment success rate should be maintained and strengthened to achieve the development goal.
2. More attention should be paid to modify the TB registration document to include the esidents of

patient to facilitate the identification [this was not included in the study’s objectives] of geographical distribution of TB.

3. More attention should be paid to HIV??? test to increase the detection of TB-HIV co-infection detection.<sup>[4]</sup>
4. Further studies are needed to identify possible risk factors for unsuccessful treatment outcome.

**6. REFERENCES**

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3. World health organization, information. Available from: <<http://www.emro.who.int/sdn/programmes/stop-tb-sudan.html>> [1 may 2015].
4. Khartoum state ministry of health, annual tuberculosis report, 2014.
5. References are very few and all appeared in the introduction??? All are documents of WHO and Khartoum Ministry of Health. No single previous study, WHY?