

**Sudan University of Science & Technology**  
**College of Graduate Studies**

**The Prevalence of Pulmonary Tuberculosis  
Among Symptomatic Cases  
In the Red Sea State**

**By:**

**Eltigani Elgili Ibrahim Fadl-Elmoula**

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of the Requirements for the Master  
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**Under Supervision of:  
Dr. Shamsoun Khamis Kafi**

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# Dedication

To my Grand Family  
Parents,

Brothers,

Wife

and children  
with love and  
appreciation

## **Acknowledgement**

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# Declaration

This work was carried out at six TB diagnostic centers in the Red Sea State, under supervision of Dr. Shamsoun Khamis Kafi and guidance of Dr. Elsunni Hamad Alneel Ahmed, General Director of Portsudan Chest Hospital, State Coordinator of Sudan National Tuberculosis Program (SNTB) in the Red Sea State,

## **Abstract**

This study was carried out to assess the prevalence of pulmonary TB among suspected symptomatic cases (over 15 years old) at the Red Sea State. The study was conducted during (March - June 2004).

A total of 200 suspected symptomatic cases were selected randomly. Three consecutive samples of (sputum) were collected from each patient, and stained by Ziehl – Neelsen (ZN) stain method, and then examined for Acid Fast bacilli (AFB).

The study showed that the infection rate of pulmonary TB was 21% among the studied groups .

The study also showed that mucoid and bloody sputum types gave better result in diagnosis of pulmonary TB using ZN- method.

Males were found to be more affected than females. The study showed that sex plays no significance role in acquiring pulmonary TB. The most commonly affected age groups were (15 – 25) years and (25 – 35) years. Statistically age was found to play insignificant role in acquiring pulmonary TB. The infection rate among Beni Amir 21%, Hadendoua 17, Refugees 33% .

The study also showed that tribe has significant role in acquiring pulmonary TB.

According to occupation the study found that labours, housewives and students were the most affected groups as follow: labours 29% , house wife 12.5%, students 24% . Statistically occupation was found to have significant role in acquiring pulmonary TB.

The study also explained how contact played an important role in acquiring pulmonary TB, for instance the study showed that in every 5 positive contact there was at least 2 new positive cases of P. TB.

Statistically contact has significant role in acquiring pulmonary TB.

The study also showed that an vaccinated cases were less affected than non vaccinated cases. The infection rate among vaccinated cases 5.6% while an vaccinated cases were 19.3%. Among 42 positive cases of pulmonary TB, 33 cases were urban, while 9 cases were rural residence.

The study also showed that residence (urban - rural) plays an important role in acquiring pulmonary TB.

## ملخص الدراسة

أجريت هذه الدراسة في ستة مراكز تشخيصية للتدرن الرئوي بولاية البحر الأحمر وذلك بغرض معرفة مدى انتشار التدرن الرئوي وسط الأشخاص المشتبه في أصابتهم بالمرض. استهدفت الدراسة مائتي شخص مشتبه فيهم بالمرض وتم تشخيص كل حالة عن طريق إجراء الفحص المجهرى لعينات تناف صبغت بطريقة ال Zeihl-Neelsen Method . خلصت الدراسة إلى أن نسبة الإصابة بالتدرن الرئوي في ولاية البحر الأحمر 21% . أيضاً خلصت الدراسة إلى أن عينة التناف (Sputum) التي تحتوي على مخاط أو دم هي العينة المثلى للتشخيص السليم وأن احتمال وجود عصويات التدرن الرئوي في العينات اللعابية غالباً ما يعطي تشخيصاً غير حقيقياً للمرض. أيضاً خلصت الدراسة إلى أن المرض يستهدف الأعمار المنتجة من الجنسين (ذكر وأنثى) وأن غالبية المرضى كانت أعمارهم ما بين (15-25) و (35-45) عاماً. خلصت الدراسة إلى أن طريقة ومكان السكن (ريفي او مدني) يلعب دوراً كبيراً في نسبة الإصابة بالمرض . أيضاً خلصت الدراسة إلى أن معظم حالات التدرن الرئوي كانت وسط طبقة العمال والطلاب وربات المنازل كما خلصت إلى وجود تباين كبير في نسبة الإصابة وسط مجموعات القبائل التي تقطن الولاية كما أكدت الدراسة بأن وجود أشخاص مصابين بالتدرن الرئوي داخل الأسرة الواحدة يلعب دوراً كبيراً في انتقاله لأشخاص آخرين. كما أكدت الدراسة أهمية التطعيم في تقليل احتمال الإصابة.

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