

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

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

**By:**

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**A thesis Submitted in Partial Fulfillment  
of the Requirements for the Master  
Degree of Science In Clinical  
Microbiology**

**Under Supervision of:  
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**February 2006**

# Dedication

To my Grand Family  
Parents,

Brothers,

Wife

and children  
with love and  
appreciation

## **Acknowledgement**

I wish to express my deepest gratitude to Dr. Shamsoun Khamis Kafi Head Dept. of Virology , Faculty of Medical Laboratory Science, Al-Ribbat University for his continuous supervision and guidance. My gratitude also extend to Dr. Alsunni Hamad Alneel, State Coordinator of Sudan National Tuberculosis program (SNTB) in the Red Sea State, Director of Port Sudan Chest Hospital, for his invaluable advises which made this work a reality.

My thanks extend to Prof. Seddig Shaheen University of Khartoum, Department of Statistics, Faculty of Economics, for his help in statistical analysis.

I am very grateful to Ustaz. Ahmed Saeed, University of Red Sea, Faculty of Economics, Department of Statistics for his help and Supervision of Statistical Analysis.

I'm also indepted to Dr. Babikir Mohammed Ali,Head Department of Community Medicine, Faculty of Medicine, University of Red Sea for his invaluable advises.

I'm also indepted to Dr. Ibrahim Malik Alnasir, General Director of Sea Port Corporation hospital for his invaluable advises.

Special thanks are extended to Dr. Humoudi Ahmed Saeed, Dean College of Medical Laboratory Science for his help and unlimited support.

I would like to thank my colleagues in the TB Diagnostic Centers of the Red Sea State for their support and help specially Senior Technologist Mohammed Ali Algadi.

I'm grateful to my colleague Ustaz. Mojahid Mohammed Alhassan for his continuous advises encouragement and help.

In the end I would like to thank many of those who are not mentioned specially medical lab assistants in the TB Diagnostic Centers at the Red Sea State who contributed in case finding and lab diagnosis.

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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 Co-ordinator 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 اجراء الفحص المجهرى لعينات تفاف صبغت بطريقة الـ Zeihl-Neelsen Method . خلصت الدراسة إلى أن نسبة الإصابة بالتدرن الرئوي في ولاية البحر الأحمر 21%.

أيضاً خلصت الدراسة إلى أن عينة التفاف (Sputum) التي تحتوي على مخاط أو دم هي العينة المثلثة للتشخيص السليم وأن احتمال وجود عصوبيات 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 أو مدنى) 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 بالدرن الرئوي داخل الأسرة الواحدة يلعب دوراً كبيراً في انتقاله لأشخاص آخرين.

كما أكدت الدراسة أهمية التطعيم في تقليل احتمال الإصابة.

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