A STUDY OF RESULT OF MASS MINIATURE RADIOGRAPHY IN DAKAHILLIA PROVINCE

(1974 - 1978)

THESIS

to be Submitted in Partial Fulfilment

for the Master's Degree (Chest)

By

ELSAYED ELSHIRBEENY YOUSSEF ELSAYED

M. B. B. Ch.

Faculty of Medicine

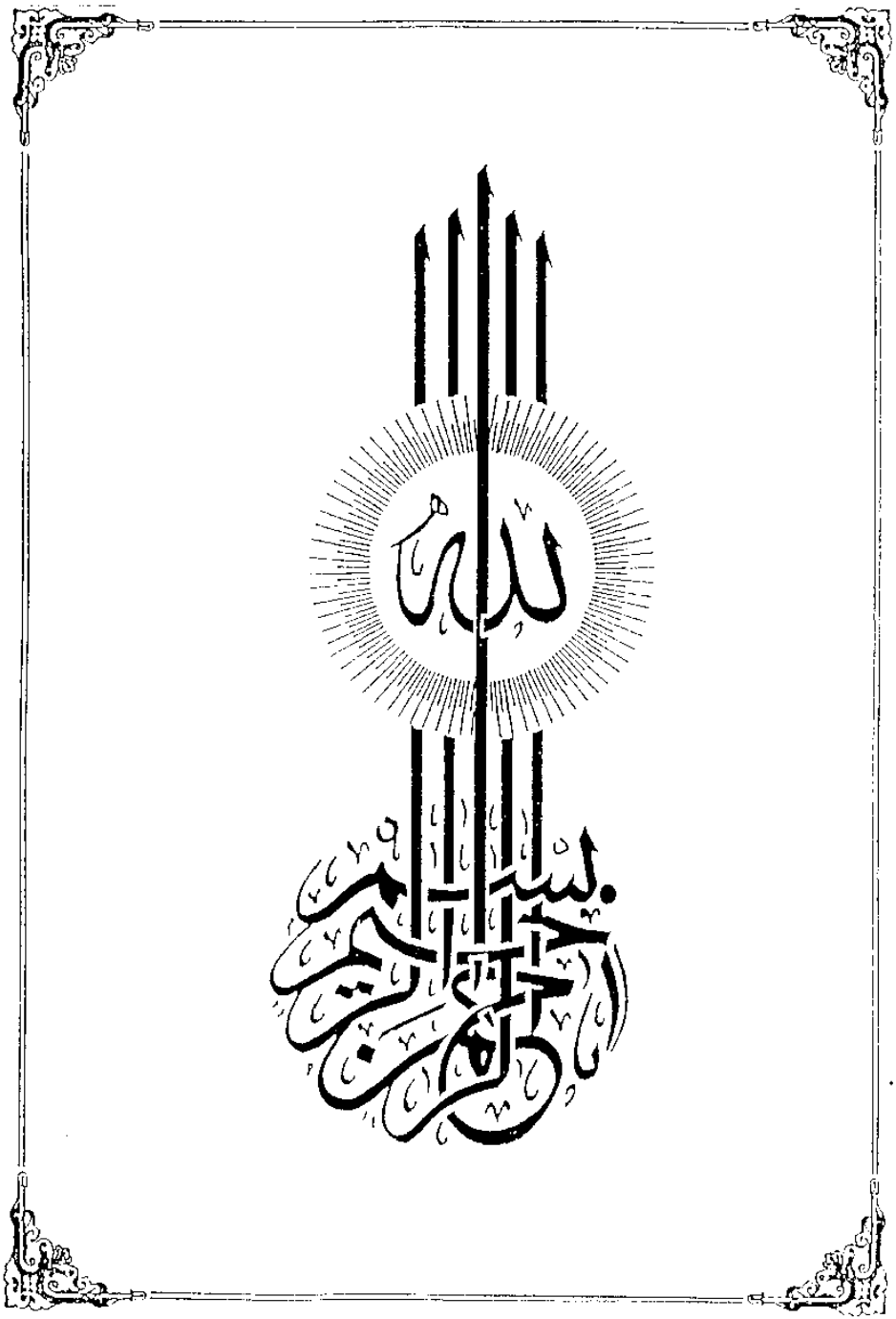
Mansourah University

Under Supervision of

Professor : **MOKHTAR MADKOUR**

Assistant Professor : **HUSSEIN ALY HUSSEIN**

1979



ACKNOWLEDGEMENT

I would like to express may deepest gratitude to Prof. Dr. Mokhtar Madkour Professor of chest diseases Ain Shams University, for the kind guidance, the fatherly encouragment and supervision all through of this study.

I am especially indebted to Professor Hussein Aly Hussein, Professor of chest diseases, for his immeasurable help in preparing and writing this thesis. In fact no words will convey my thanks, for to him I owe much.

Also I wish to thank every person who gave me a hand while performing this study.

C O N T E N T S

	PAGE
ACKNOWLEDGEMENT	
INTRODUCTION	1
MATERIAL AND METHODS	7
RESULTS	10
DISCUSSION	15
TABLES	25
CURVES	
SUMMARY	37
REFERENCES	39
ARABIC SUMMARY	

§§§§§§§§§§§§§§§

INTRODUCTION

Tuberculosis is still a major scourge of man-kind in the developing part of world, but it also remains an important problem in many technically advanced countries.

It is therefore of great importance to try to ge-ther statistical information concerning this disease on a world-wide scale.

The remains of ancient skeleton reveal the chara-cteristic change of tuberculous pathology, indicates that man was affected with the disease some 4000 years B.C., and it was a disease in Egypt 1000 years B.C.

In early writing it was called consumption because of its tendency to cause great wasting of its victims. In Greek literature the word "phythisis" was used, and in early ninteenth century termed as tuberculosis mainly from autopsy description by physicians as Laennec and Bayls.

The disease was referred to as "the white plague", and reached its greatest peak in Europe during eighteenth century.

Studies carried out before the introduction of chemotherapy showed the strong association of tuberculosis with socio-economic factors, and it is probable that the decline in many countries of Europe was brought about by a steady improvement in the standards of living in broadest terms.

When tuberculosis was very frequent, as a cause both of disability and death, the need for activities to reduce its effect was evident to all members of the community including those responsible for health care.

In 1882 Robert Kock discovered the tubercle bacillus which has been considered as one of the most important discoveries in bacteriology and history of medicine.

In 1895, Rontgen discovered x-ray which later proved invaluable for the diagnosis of tuberculosis.

In 1907, Von Pirquet discovered the tuberculin test.

Mass miniature radiography (M.M.R.) was initiated in Saskatchewan in 1941 and has been continued during the whole period under study, with the addition of mass tuberculin testing in 1955.

The B.C.G. Vaccination against tuberculosis was evolved by French Scientists, Calmette and Guerin. International B.C.G. campaign was initiated by Scandinavian countries in post war period. Its success lead to larger trials.

The active work in the battle against tuberculosis was the discovery of Streptomycin (Walksman, 1944), Para-aminosalicylic acid (Lehmann, 1946) and isoniazid 1951.

New short-course chemotherapy drugs were added recently, which greatly improved the cure rate of T.B., these drugs have changed the picture of the disease and have give the hope that tuberculous control would be attained in a reasonable time.

Dramatic improvement in the tuberculous situation has occured in the last 25 years because of the better socio-economic conditions, effective chemotherapy and B.C.G. vaccination.

Along the whole world, the ugly face of the disease has changed with the decline of the mortality and

morbidity rates, and decrease in disability and complications.

Egypt is one of the countries with moderate tuberculosis prevalence, having an annual infection rate varying between 1 and 2%, and a sputum positive rate between 0.1 and 0.2%, and with 5 to 20% infection rate among children of 5 - 9 years of age, and showing a constant though moderate decrease of tuberculosis (D.N.a).

The antituberculosis programme in Egypt is based mainly on specialised tuberculosis services which comprise:
Some (10.000) beds in (24) hospitals, (88) dispensaries., (25) mass miniature, radiography mobile units (45) mass miniature radiography static units in major dispenaries., (25) B.C.G. mobile teams., More than 1000 B.C.G. vaccination centres in public health units, maternity and children health clinics, rural basic health centres and school health services, (23) mass antituberculosis centres in provincial capitals, and (15) laboratories for culture and sensitivity testing.

In these various tuberculosis institution the technical activities are carried out by:
(350) physicians., Some (2000) nurses., (155) laboratory technicians., (150) x-ray technicians., (84) social workers, and about 3000 nurses trained in B.C.G. vaccination.

The entire control programme is supervised and coordinated by a central office under the ministry of health, but the direct administration of the tuberculosis institutions is the chief responsibility of the local health authorities (Donia, 1976).

The general plan of action is based on the classical concept of tuberculosis control adopted in the majority of developing countries i.e. 2 basic control measures:

1- Diagnosis and treatment of tuberculosis cases.
2- B.C.G. vaccination.

AIM OF THE WORK

In Egypt tuberculosis is still a major public health problem. Many previous studies stressed the need of estimation of various epidemiological parameters for the country as a whole and in various areas.

Thus this retrospective study is ment to review the records of results of Mass Miniature Radiography (M.M.R.) in Dakahillia province throughout a 5 years period from 1974 to 1978.

MATERIAL AND METHODS

The material presented in this retrospective study was collected from the records of mass miniature radiography (M.M.R.) centre of Dakahillia province.

Thus this retrospective study is ment to review the available data in the mass miniature radiography centre of one of the biggest provinces in Egypt.

Dakahillia province containe three chest hospitals "Elmansourah, Behote and Shubra bare", seven dispensaries "Belokase, Shirbeene, Mit-Amr, Elmanzalaa, Elsinbelaweene, Dikerneese and Tanah", and one mass miniature radiography centre which have one mobile mass miniature radiography unit.

The population of province totalled 4000.000 in 1974 and in 1978 it is heavily populated by 4.500,000 persons.

The majority of population in this area belonging to the middle class. It shares other zones of the city in reciving new population each year.

During the 5 years of the present investigation Dakahillia province have increased its population as a part of the general phenomenon of increase birth rate all over the country.

The mobile mass miniature radiography unit with 70 mm. roll films subjected the population studied. The presence of radiological shadows consistent with tuberculosis received the chief attention.

All the detected cases are referred to the corresponding dispensery for big films and bacteriological study.

Collection of data was done throughout the 5 years (1974 to 1978), the following data were estimated:

1- The total number of individuals examined yearly by the centre.

2- M.R. tuberculosis prevalence among general population, this included "students, farmers, industrial workers and persons who attended chest hospitals and dispensaries".

3- Distribution of cases according to extent of the disease radiologically.

4- Distribution of detected cases according to the sex.

The available data were tabulated, statistically analysed and presented in tables and charts in order to get a picture of the disease in Dakahillia province between (1974 to 1978), a special stress was placed on the difference between (1974 to 1978) as to clarify any change.

RESULTS

This survey was conducted over a period of 5 years (1974 to 1978) in Dakahillia province to present parameters not previously discussed.

The presence of lesions consistent with tuberculosis in this period of this study were found in 741 cases (625(.54%) were considered as pulmonary tuberculous cases and 116 (.10%) were considered as tuberculous pleural effusion) out of a total of [illegible] individuals examined are shown in (table 1). The percentage of tuberculous cases to the total examined was 1.3% in 1974 and .26% in 1978. Statistically there is significant decrease in percentage of tuberculous patients in 1978 when compared to 1974. ($P < 0.001$) thus this decrease is real (table 2) also this table shows that the prevalence of pulmonary tuberculosis is .64% in this study.

The distribution of the pulmonary tuberculous cases according to the extent of pulmonary tuberculosis, classified after the National tuberculosis association 1961 (table 3). The table shows that the moderate lesion exhibited the highest 5 years incidence (45.44%), incidence was (40.24%) in 1974 and (57.31%) in 1978. Far advanced lesion incidence lesion incidence (29.44%), incidence