

V.O
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A STUDY OF THE RESULTS
OF MASS RADIOLOGY IN
MENOFIA PROVINCE

(REPRESENTED BY MENOUF DISPENSARY)

DURING THE YEARS

1974 - 1978
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THESIS

TO BE SUBMITTED IN PARTIAL FULFILMENT

FOR THE MASTER'S DEGREE (CHEST DISEASES)

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CONTENTS

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1. Acknowledgment
2. Introduction
3. Aim of study
4. Review of literatures
5. Material and methods
6. Results
7. Discussion
8. Summary
9. References
10. Arabic Summary.



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" INTRODUCTION"

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Tuberculosis seems to be a perennial associate of human life. It existed in ancient Egypt as revealed by traces of Pott's disease in mummies.

A Peruvian mummy, certainly dating from pre-columbian times, showed a typical calcified tuberculous focus in the right lower lobe of the lung with its characteristic complement in the lymph node at the bifurcation of the trachea.

In the ancient Indian Vedas " consumption " appears as the 'king of Diseases' : an ancient myth visualized it in the waning phases of the moon. (9)

In Egypt, tuberculosis is still a major public health problem. Thus the estimation of the extent of the tuberculosis problem yields valuable epidemiological data necessary for guiding the antituberculosis campaign.

The measurement of the size of the tuberculosis problem in a community is of importance not

only in the planning of antituberculous services but also in estimating their success.

Mortality, notification, prevalence, attack and tuberculin positivity rates are measurements used. Notification rate means percentage of patients having active disease, requiring treatment to the total tuberculous cases in the whole community at the same year.

A notification on the basis of positive bacteriological findings is fairly straight - forward although of course it depends partly on the intensity with which tubercle bacilli are sought. Nevertheless such a definition would include only a proportion of patients with active disease requiring treatment, which varies very much from area to area and even from doctor to doctor.⁽⁴⁾

It is therefore much more difficult to make comparative studies on notification rates between different areas, unless figures are confined to those in whom tubercle bacilli have been identified, even this depend on the method used and the number

of specimens examined.

Before the introduction of chemotherapy there was approximately 1 death for every 2 notification which was converted within a few years to 1 death for every 14 notification..⁽⁴⁾

The prevalence rate is the number of active cases of pulmonary tuberculosis present in the community at any one time.

The ideal method would be to institute Mass Miniature Radiography, tuberculin testing and bacteriological investigation for the entire population. The prevalence rate of active cases in the population surveyed was 2.35 per 1000 in Glasgow and 1.69 per 1000 in Edinburgh. (1957)⁽⁴⁾

Egypt is one of the countries with a moderate tuberculosis prevalence having an annual infection rate varying from 1% to 2%, sputum positive rate between 0.1% and 0.2%.^(II)

Tuberculosis control activities in Egypt:

A : B.C.G. Vaccination:

Vaccination with B.C.G. gives protection to 80% for 10 years. (3)

B.C.G. vaccination was used for the first time orally in France in 1922, but in 1930 intradermal inoculation was introduced in Scandinavia. (4)

It was first produced for use as a living vaccine nearly 60 years ago. (6)

The new borne infants and school age are the main target groups, for our vaccination program.

B : Case finding:-

Mass Miniature Radiography examination for case finding is the method usually adopted however this method is a very expensive procedure even when used in high prevalence population. Moreover it can not discriminate cases with active disease requiring treatment from inactive ones and it does not give an etiological diagnosis. So bacteriological

iratory symptoms is the best and cheap procedure in case finding. It was found that the use of the direct microscopic examination is suitable to detect more than 80% of infectious tuberculous cases particularly when it is repeated.

As a general rule about 66% of tuberculous cases will give a positive result on the first smear, 12% positive for the second smear, and about 4% positive for the third smear. The remaining smear negative cases will be detected by culture method. (II)

C : Treatment:

Egypt has the largest number of beds for tuberculosis control in the middle east region (10000 beds). (II)

There are two ways for treatment in Egypt:

I) Hospital treatment:-

There is one bed per 4000 inhabitants. This excess in tuberculosis beds constitutes a major drain on the already limited resources

available for the control program. (II)

2. Domiciliary treatment:

Really it is ~~a~~equally effective and much less expensive provided it is well supervised and employed. In our country recent studies show that about 0.8% of the population has radiological ~~shadow~~ suggestive of tuberculosis and the mortality rate for ~~tuberculosis~~ is about 8 per 100,000. (5)

About the area of this study, Menofia province-lies in the delta region-is related from the north to Gharbia province, from the south to Kalubia province, from the East to Sharkia and Kalubia, from the West to Rashid branch of the River Nile and Behera province. The number of population in Menofia province is 1,710,982 , (871843 Males and 839139 females) according to the last census (1976), living over 1504 km². The desity is 1138 inhabitants/km² and the people are working mainly in agriculture and industry. Facilities available for antituberculosis program in Menofia province consist of:

One mobile M.M.R. unit.

Menouf chest hospital (contains 90 beds) and dispensary which having a static M.M.R. unit.

Shibin El-Kum (30 beds) and dispensary have no apparatus for M.M.R. and depends on the mobile M.M.R. unit.

zawyat El-Naora chest hospital (30 beds) and dispensary have no apparatus for M.M.R. and depends on the mobile M.M.R. unit.

Ashmun dispensary depends also on the mobil M.M.R. unit. Each of these chest units which were innuinated above contains an apporatus for largefilms.

B.C.G. vaccination is done in public health units, maten^rity and children health clinics school health services, rural health centers and chest dispensaries.

AIM OF STUDY.

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The aim of this study is reviewing the results of Mass Radiology of chest for the Menofia province (represented by Menouf dispensary) and statistical analysis of this results during the period of study (1974 - 1978).

Considerable work was done on tuberculosis in Egypt in the last fifty years, but in spite of this many aspects of the problem were still not defined. Therefore when the Medical Research council, which is one of councils belonging to the Academy of scientific Research and Technology, was formed in 1972, it chose the subject of tuberculosis as the second National medical problem to be investigated, the first being Bilharziasis.

Gomaa, was the first man using M.M.R. in Egypt during 1948. The earlist M.M.R. survey was the done by sirry in Alexandria in 1953.⁽¹⁾

Also Gomaa and Alamy; (1964); studied the T.B. morbidity rate by M.M.R. in the rural area of Kaluib and foundd that the morbidity rate was 1.3%.⁽¹⁾

Salem etal; (1971); made a survey among Cairo University applicants students by M.M.R. over 10 years interval (57,5859 - 67,6869), by which they found significant decrease in T.B. morbidity from

1.35% to 0.85%⁽¹⁾

Also Salem et al; (1976); made a survey among 2430 applicant students in Zagazig university by M.M.R. and found a spectacular drop in T.B. morbidity (0.2%)⁽¹⁾

Sultan et al; (1973); made a Report^{on} the survey project of tuberculosis in Arab el-Mohammady, Abbassia Cairo and found that the prevalence and incidence of Pulmonary tuberculosis in this region were 11.5 per 1000 and 6.3 per 1000 respectively.⁽¹⁾

Madkour et al; (1977); analysed 144040 subjects examined at Abbassia dispensary from which 7963 were diagnosed as tuberculosis (5.5%) and there was a significant decrease in T.B. patients, detected in 1973 when compared by 1978, 8.3% to 4.6%⁽⁷⁾

Also Madkour et al (1978); made a report for the changing picture of tuberculosis in Sayda Zenab district showing the annual notification rate of tuberculosis in those attending the dispensary ranged from 3.64% to 8.52% , the incidence of branchogenic T.B. was 4.1% and the higher incidence of case was found between 20 - 29 years age.⁽⁸⁾

Afrain; 1980; made a study in Assuit dispensary

(II)

(74 - 78) and found that the prevalence of pulmonary tuberculosis was 3.3%.⁽²⁾

Shaban; 1980; made a study in Kalubia province (74 - 78) and found that the prevalence of pulm. tuberculosis was 1.4%.⁽¹⁰⁾

Warraki et al; (1970); in Abbassia district, showed that the annual trend of extrapulmonary tuberculosis was on the increase. Also the trend of tuberculous adenitis amongst extra-pulmonary T.B. is rising, while that of skeletal tuberculosis is declining.⁽¹²⁾