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RISK FACTORS OF PULMONARY TUBERCULOSIS AMONG TB PATIENTS IN ASSIUT UNIVERSITY AND CHEST DISEASE HOSPITAL, ASSIUT-EGYPT

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ABSTRACT :

The aim of the present study is to identify the predisposing risk factors influencing the prevalence of pulmonary tuberculosis. The study was conducted in two settings the first setting (A) is Assiut University Hospital at chest department and out patient chest clinic and the second setting (B) is Ministry of Health Assiut chest Hospital. The study sample consisted of 200 tuberculosis patients who were between 18-59 years newly discovered attack. The information was gathered by four tools deducted by the researcher after review literature.

The first tool was an interview Schedule tool, second tool is the assessment of socioeconomic status. Third tool is the assessment of indoor air pollution. Fourth tool is the assessment of nutritional status. In addition, pilot study was done in order to test the tools regarding the content, presence of any repetition, question statement, word reliability, clarity and time needed to conduct the study.

The major findings of the present study indicated that there is highly significant relationship between the age, occupation, marital status and the prevalence of pulmonary tuberculosis (p=0.000). There is highly significant relationship between drugs intake, BCG vaccination, socioeconomic status, indoor air pollution and prevalence of pulmonary tuberculosis (p=0.00). Also, there is no significant difference between smoking biochemical data, gastrointestinal problems of tuberculous patients and prevalence of pulmonary tuberculosis (p>0.05). In view of the result obtained from the present study several recommendations were offered for helping in planning a preventive program for people in Egypt. Screening of high-risk groups to detect individuals with TB infection and give them isoniazed chemoprphylaxis to prevent them from developing clinical tuberculosis, a follow-up of this study is needed to collect as much and comprehensive information as possible about the risk factors and the epidemiology of TB in Egypt. The emphasis must be placed on collecting and replace rate.

INTRODUCTION:

The history of tuberculosis (TB) is inter-weaved inevitably with the history of civilization. The disease has not only been inseparable from man's progress, but it has been impossible to disentangle the medical issues from the economic and social life of the community (Zaher, 2000). The main reasons for the increasing global TB burden are: poverty

and the widening gap between rich and poor in various populations; inadequate case detection, diagnosis and cure; increasing world population and changing age structure, and the impact of the Human Immuno-deficiency Virus (HIV) pandemic (Mobashir *et al.*, 1989).

The high burden of TB in many developing countries makes TB control a priority public health concern that must be addressed through the primary health care network (Esmat *et al.*, 1985). The problem has not been the lack of ways to detect and cure TB patients, but the problem has been the lack of organization of services to ensure widespread detection and cure of TB patients, particularly the infectious ones (Weis, 1997). Action has been hampered by failures in public health infrastructure and legal-philosophical support for government intervention. The WHO (1997) considered a high research priority to conduct epidemi-ological studies to identify and quantify, the relation-ships between pulmonary tuberculosis, (indoor air quantity) nutritional status, and socio-cultural variables.

Tuberculosis was declared as a global emergency by WHO, 1998. Tuberculosis (TB) is responsible for the deaths of more youths and adults than any other infectious disease. In Egypt, TB is considered the second most important public health problem after Bilharziasis. It is estimated that 21,000 smear-positive and 18,000 smear-negative new cases develop every year. In addition, every year there are 10,000 relapsing cases after inadequate treatment (Seita, 1996).

Predisposing factors for pulmonary tuber-culosis are the following. Malnutrition, Socio-economic factors, Air pollution, BCG -Vaccina-tion, Smoking and pulmonary tuberculosis (Warraki *et al.*, 1987). The nurse has an important role in the care of the patients with TB and their kamilies including assessing the

patient's ability to continue therapy at home. The nurse assesses the patients, for adverse drug reactions and participates. In surveying the patient's home and work averment to identify other persons who may have been in contact with the patients during the infectious stage. Follow-up screening for contacts may need to be arranged: Adequate nutritional intake, infection control measure, early detection and prevention are nursing strategies for healthcare workers (CDC, 1997).

Aim of the study:

The aim of this study is mainly to identify the predisposing factors that influence prevalence of pulmonary Tuberculosis.

SUBJECTS AND METHODS:

Study setting:

The study was conducted in two setting: The first setting (A) in Assiut University Hospital at chest department and out patients chest clinic. The second setting (B) is Ministry of Health chest Hospital.

Study subject:

Two hundred patients were included in this study their age ranged between 18 and 59 years, 135 male and 65 female, all of them were receiving treatment as inpatients or out patients from setting (A) and (B) during the study period, which started from June till December 2001.

Data collection tools:

Four tools were developed to identify the predisposing risk influencing the prevalence of pulmonary tuberculosis in patients which were receiving health care in the two settings. These tools were deducted and used by the researcher after review and analysis of related literatures.

First tool: Interview schedule tool, which contains three parts.

PartI: Bioscoiode-mographic characteristics include sex, age martial status, education and occupation. Age was categorized into 2 groups 18-39 year (early age group), 40-59 year (late age group).

Part II: General living condition covered by 13 items or 13 subsections describing patients living condition details. It included the following items: residence, type of house, ownership, number of rooms, family size, number of people sleeping in the same room, etc.).

Part III: Medical influencing included history of previous BCG vaccination, past history of tuberculosis and family-history of tuberculosis. History of receiving corticosteroid drug. Diabetes, Renal Failure, etc… (CDC, 2000). Smoking habits included years of smoking and quantity of cigarette smoking per day.

Second tools: Assessment of the socioeconomic status the socioeconomic status of patients was assessed according to the (8) item scoring system designed by (Fahmy & El-Sherbini, 1984) to identify socioeconomic status influencing the prevalence of pulmonary tuberculosis.

Third tool: The indoor air pollution of the residence was assessed according to the new standard Inventory questionnaire (1989) which was adapted to suit the local environment, to identify if the indoor air pollution had risk factor for pulmonary tuberculosis. This tool include a 7-item scoring system. A maximum score of 3 and a minimum score of (0) were given to each item. Those who scored (15 or more) were considered as having "good" indoor air quality, those who scored (8–14) were considered as having fair indoor air quality, while those who scored (less than 8) were considered as having "poor" indoor air quality.

Fourth tool: Assessment of nutritional status. This tool included the following items:

1-Anthropometric measurements: Calculating of body mass index (BMI), Triceps skin fold thickness (mm) indicates fat stores, Midarm circumference (cm) indicates the state of muscle protein.

2-Biochemical measurements:

Determination was made from studies of serum (serum protein, hemoglobin, hematocrit, total leucocytic count, urea and creatinine).

3-Clinical examination findings: These include the mouth, tongue, teeth, gums …etc.

4-Present dietary record: The appraisal of food intake considered the quantity and the quality of the diet, and also the frequency in which certain food items were consumed, in order to determine current or customary intake of nutrients and food record. The patient was asked to keep a record of food actually consumed over a period of time (7 successive days). This tool was developed to assess weekly consumption of animal proteins and body mass index of the study sample. Weekly consumption of animal proteins (meat, chicken, fish, egg, milk and milk products) was categorized as low consumption (less than three times a week), moderate consumption (three to five times a week) and high consumption (Six to Seven times a week).

A pilot study was done to test and evaluate the tools regarding the content, the presence of any repetition within the questions, question statement, word reliability, clarity and the time needed to interview the patients.

Content analysis tables were conducted for developing the tools, and question with highest percentages i.e. 75 and above were included in the tools. All questions are closed ended one.

Method of data collection:

It was found that the chest outpatient clinic was the most frequently visited by patients.

Administrative approval for conducting the study was obtained, from Assiut University Hospital director, medical surgical manger, and director of nursing for their cooperation and director of chest department to carry out the study. In setting (A) the five months were spent to collect the data from one hundred-fifty patient. While in setting (B) the two months were spent to collect the data from fifty patients.

Data was collected by interview methods, the study subjects was individually interviewed to maintain patients privacy and comfort. The assessment also included reviewing patient's files.

Data analysis method:

Different statistical methods were used to analyze the results. First, the percentage and frequency chi-square was also used to detect the significant association between the age, sex and risk factors. Also descriptive statistics were calculated (mean and standard deviation).

RESULTS:

Table (1): Shows the biosociodemographic characteristics, of tuberculous patients in relation to age. The data revealed statistical significant differences between early and late age group related to items of sex, Marital status, Level of education, Occupation. Relation between the work and disease was found among more than half of the study subjects. (P-value <0.01).

Table (2): Shows smoking habits of tuberculous patients in relation to age. The data reveals that no statistical differences were found between the two groups related to all items: smoking, type, degree and smoking index P-value > 0.01.

Table (3): Shows drugs intake, BCG vaccination and main complaint of tuberculous patient's in relation to age. As regards drugs intake the majority of patient's (70.2%) in late age group were in alcohol and drug abuse category. There is significant difference between drugs intake (steroid) and age ($X^2 = 8.03$ and p-value=0.008). As regard BCG vaccination the patient's in late age group were vaccinated without scar more than patient's in early age group (39% and. 25%, respectively).

Table (4): Revealed that statistical significant differences were found between both groups, majority of patients were constituted in low social class, shared housing, living in rural areas and had more than 3 children (P-value 0.015, 0.001, 0.04, 0.000, 0.000 respectively).

Table (5): Showed assessment of the weight, chest x-ray grade, result of sputum culture and biochemical data of tuberculous patient's in relation to age. Concerning to the weight almost one-fourth (28) in the early age group (form 18<40 years) were over-weight and the majority (80.1%) were under-weight in the late age group (From 39<60 years). There is significant difference between weight and age ($X^2 = 154$) P-value = 0.09).

In the early and late age groups; 426% and 20.0%, respectively had chest x-ray grade one, also (39.1% and 53.7% respectively had grade three. Here is significant difference between chest x-ray grade and age ($X^2=10.18$ and P-value = 0.006).

As regard to result of sputum culture in both age groups (42.2% and 47.8% respectively) had positive for (A.F.B) while, 57.2% and 52.2%, respectively were negative.

There is no significant difference between biochemical data and age P-value>0.05.

Table (6): Shows weekly consumption of animal protein of tuberculous patient's in

relation to age statistically significant differences were found between the early age and late age groups regarding two items. Higher percentage of rare intake of meat, chicken in the early age group more than those in the late age group (79.7% vs. 73.5% respectively) X^2 = 95.6% and P-value =0.00. As regards rare intake of egg and milk or it's product's was more among the late age group than those in the early age group (16.2% vs. 7.8%, respectively. Difference between two age groups consumption of animal protein was statistically significant, (X^2=18.5 and P-value = 0.000).

Table (1): Biosociodemographic characteristics of tuberculous patients in relation to age.

Variables	Early age 18<40y. N=64		Late age group 40<60y. N =136		Chi square X^2	P. value
	No	%	No	%		
1-Sex:						
Males	38	59.4	97	71.3	3.43	0.044*
Females	26	40.6	39	28.7	-	-
2-Marital status:						
Single	14	21.9	7	5.1	16.75	0.000**
Married	50	78.1	119	87.5	-	-
Divorced or widow	-	-	10	7.4	-	-
3-Level of education:						
Illiterate and read and write	42	65.6	79	58.1	2.58	0.274
Primary and preparatory	8	12.5	30	22.1	-	-
Secondary and university	14	21.9	27	19.9	-	-
4-Occupation:						
Professional	50	78.1	103	75.7	13.90	0.016*
Non professional	14	21.9	33	24.3	-	-
5-Relation between the occ-upation work and disease:						
Not present	19	29.7	59	43.4	3.50	0.044*
Present	45	70.3	77	56.6	-	-

* Statistically significant

Table (2): Assessment of smoking habits of tuberculous patient's in relation to age.

Variables	Early age 18<40y. N =64		Late age group 40<60y. N=136		Chi square X^2	P. value
	No	%	No	%		
1-Smoking :						
Non smoker	27	42.2	4	4.2	2.94	0.23
Smoker	23	35.9	43	45.3	-	
Ex- smoker	14	21.9	48	50.5	-	
2-Type:						
Cigarette	12	32.4	36	39.6	0.57	0.75
Goza	12	32.4	26	28.6	-	-
Both	13	35.1	29	31.9	-	-
3-Degree :						
Mild ↓ 10/day	10	27.0	30	33.0	0.98	0.61
Moderate 10-20/day	16	43.2	31	34.1	-	-
Heavy ≥ 20/day	11	29.5	30	33.0	-	-
4-Smoking index:						
Mild ↓ 199/m.	22	59.5	59	64.8	1.36	0.50
Moderate ↑ 200-399/m.	15	40.5	30	33.0	-	-
Heavy ↑ 400	-	-	2	2.2	-	-

Ex- smoker- stopped smoking more than six months.

Table (3): Assessment of drugs intake, BCG vaccination and main complaint of tuberculous patients in relation to age.

Variables	Early age 18<40y. N=64		Late age group 40<60y. N=136		Chi square X^2	P. Value
	No	%	No	%		
1-Drugs intake:		–				
Steroid	18	28.1	25	18.4	8.03	0.008*
Cytotoxic	-	-	3	2.2	-	-
Contraceptive pills	10	15.6	-	-	-	-
Other	36	56.2	98	70.2	-	-
2-BCG:						
Not vaccinated	24	37.5	40	29.4	-	-
Vaccinated +ve scar.	24	37.5	43	31.6	-	-
Vaccinated no scar	16	25.0	53	39.0	3.7	0.07
3-Main complaint:						
Persistent cough	44	68.8	76	55.9	3.06	0.21
Expectoration	19	29.7	56	41.2	-	-
Fever	1	1.6	4	2.9	-	-

* Other- Drug abuse, Alcohol abuse.   *** Statistically significant**

Table (4): Assessment of socioeconomic states, type of housing, bed room crowding index, Residence and number children less than 10 years of tuberculous patient's in relation to age.

Variables	Early age 18<40y. N= 64		Late age group 40<60y. N = 136		Chi square X^2	P. Value
	No	%	No	%		
1-Social score:		–		–		
Low	43	67.2	116	85.3	13.8	0.015
Moderate	18	28.1	14	11.1	-	-
High	3	4.7	6	4.8	-	-
2-Type of housing:						
Shared	51	79.7	115	84.5	15.9	0.001**
Private	13	20.3	21	15.5	-	-
3-Bed room crowding index:						
<3	16	25	42	30.1	2.53	0.04*
3-4	33	51.6	49	36	-	-
5 +	15	23.4	45	33.1	-	-
4-Residence:						
Rural	53	82.8	115	84.6	16.11	0.000*
Urban	11	17.2	21	15.4	-	-
5-Children less than 10 years:						
Less than three children	8	12.5	12	8.8	18.7	0.000*
More than three children	56	87.5	124	91.2	-	-

* Statistically significant

Table (5): Assessment of weight, chest x- ray grade, result of sputum culture, hemoglobin level, hematocrit, total lymphocyte count, urea of creatinene and total protein of tuberculous patient's in relation to age.

Variables	Early age 18<40y. N = 64		Late age group 40<60y. N=136		Chi square X^2	P. Value
	No	%	No	%		
1-Weight:						
Normal	24	37.5	21	16.0	15.4	0.09*
Over-weight	5	2.8	6	3.9	-	-
Under weight	35	54.7	109	80.1	-	-
2-Chest x- ray grade:						
Grade I	27	42.2	28	20.6	10.18	0.006*
Grade II	25	39.1	73	53.7	-	-
Grade III	12	18.8	35	25.7	-	-
3-Sputum culture:						
Positive for (A.F.B.)	27	42.2	65	47.8	0.55	0.5
Negative for (A.F.B.)	37	57.8	71	52.2	-	-
4-Hemoglobin level:						
Normal	58	90.6	126	92.6	13.9	0.85
Abnormal	6	9.4	10	7.4	-	-
5-Hematocrit level:						
Normal	58	90.6	110	80.9	18.9	0.9
Abnormal	6	9.3	26	19.1	-	-
6-Total lymphocyte count:						
Normal	51	79.7	129	94.9	14.15	0.15
Abnormal	13	20.3	7	5.1	-	-
7-Urea:						
Normal	63	98.4	130	95.6	3.56	0.6
Abnormal	1	1.6	6	4.4	-	-
8-Creatinene:						
Normal	60	93.8	133	97.8	15.62	0.28
Abnormal	4	6.2	3	2.2	-	-
9-Total protein:						
Normal	56	87.5	128	94.1	18.15	0.7
Abnormal	8	12.5	8	5.9	-	-

Statistically significant.

Table (6): Relationship of weekly consumption of animal protein for tuberculous patient's and age

| Variables	Early age 18<40y. N =64		Late age group 40<60y. N=136		Chi square X^2	P. value
	No	%	No	%		
1-Meat and chicken:						
Rare	51	79.7	100	73.5	95.6	0.000*
Moderate	13	20.3	36	26.5	-	-
2-Fish:						
Rare	64	100.0	136	100.0	-	-
3-Egg and Milk or it's product:						
Rare	5	7.8	22	16.2	18.5	0.000*
Moderate	22	34.4	60	44.1	-	-
Daily in take	37	57.8	54	39.7	-	-

*Statistically significant   *Consumption of fish was very rare in Upper Egypt.
Rate intake: 0–1 time/ week
Moderate: 2–5 time/week
Daily intake: 6–7 time/week

Fig.(1): Relation of socioeconomic status and chest X-ray of tuberculous patients

Fig. (2): Relation of smoking habitsand chest X-ray of tuberculous patients

Fig. (3) : Relation of Sputum culture and drug intake of tuberculous patients
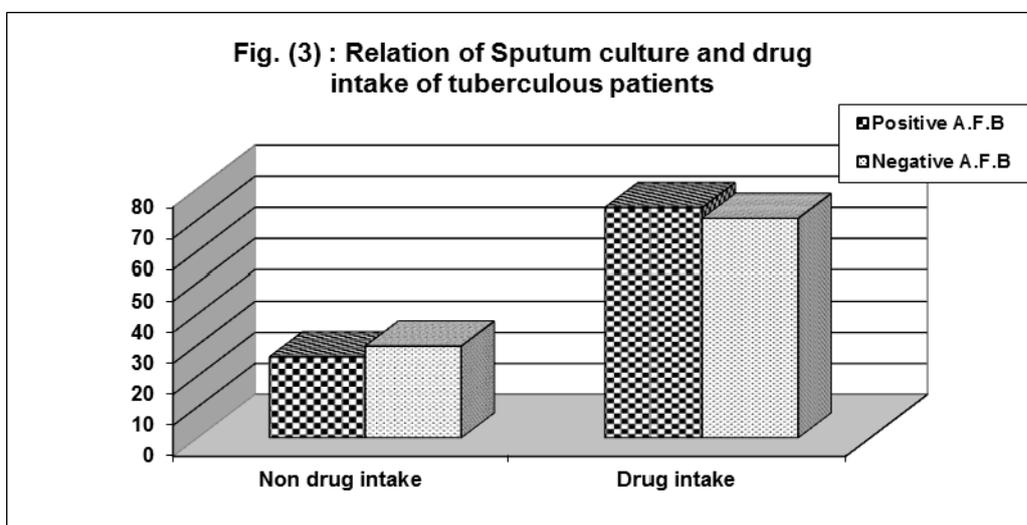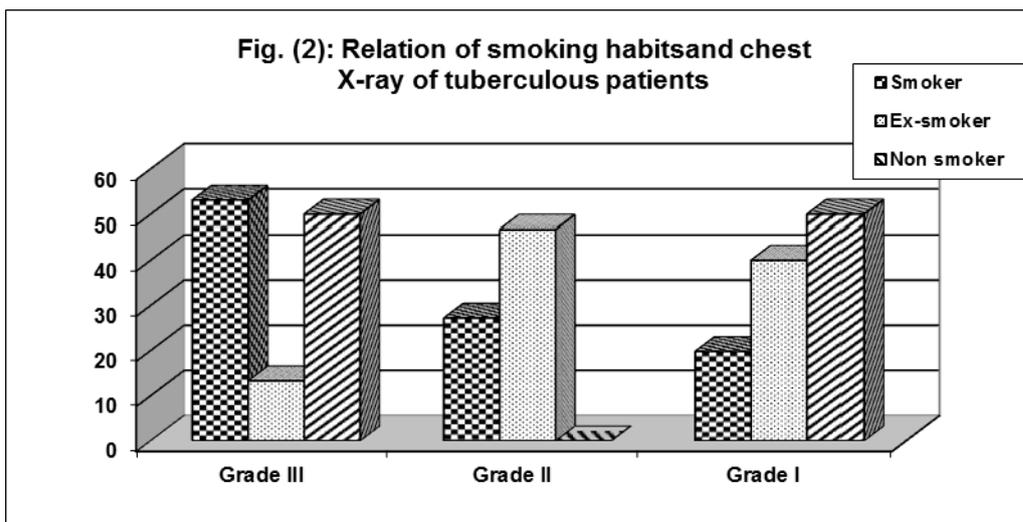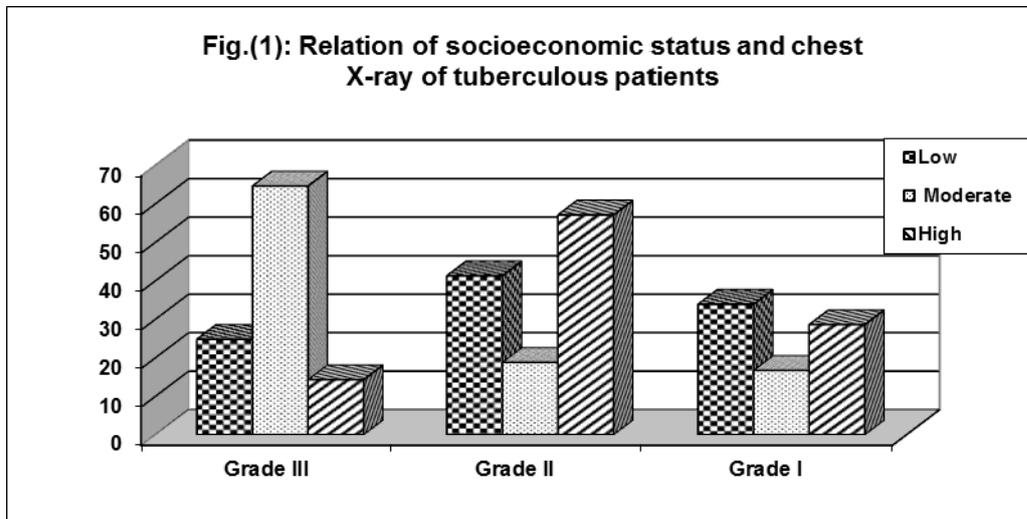
DISCUSSION:

Tuberculosis is the world's main cause of infection disease-related mortality. The incidence of new cases of tuberculosis has increased in the majority of countries, due primarily to it's association with human immune-deficiency virus (HIV) epidemic, but also to other conditions, such as migration, homelessness, poverty addictions or inadequacy of health care resources. There are a number of factors, environmental as well as constitutional, that alter individual response to tuberculous infection and favor the development of the disease (WHO, 1998).

Hence, this work has been carried out to study predisposing factors influencing the prevalence of pulmonary tuberculosis. Numerous factors that are influencing the prevalence of pulmonary tuberculosis have been identified in the present study. Some of these factors are highly associated with pulmonary tuberculosis and been a high. These factors are body mass index, socioeconomic status, BCG vaccine and indoor air pollution other factors are increase risk to pulmonary tuberculosis and can also bear a risk such as age, Marital status, occupation… etc. While other are not associated with pulmonary tuberculosis prevalence such as smoking education, …etc.

The extent of sex difference in mortality and morbidity in development countries is unknown. In America and Europe the overall mortality rates at very age are higher morbidity rates than men (Barker and Hall, 1999). However in this study it was observed that more than two-thirds of the patients were males (71.3 % vs. 28.7%). This is supported by (Dolin et al., 1999) who stated that males are two-time more likely to develop pulmonary tuberculosis than female.

In most countries pulmonary tuberculosis has gradually become a disease of older people (Grzybowski, 1991). Moreover, Breault and Hoffman (1997) found that aged people were at greater risk to develop tuberculosis than other age groups. This was justified by Buskin et al., (1994) who indicated that impaired cell-mediated immune response, concurrent underlying medical conditions and poor living conditions all may contribute to increase likelihood of disease in late age group. It was clear in the present study that there is a risk for developing pulmonary tuberculosis with increased age. This is not in line with Okat-Nowang et al., (1993), their findings indicated that pulmonary is most common in young adult age 15-44 years (Chan et al., 1995). These studies stated that tuberculosis is most common in developing countries among certain subgroup such as the elderly.

Marital status was associated with pulmonary tuberculosis in the present study. The findings of this study showed that married couples divorced and widowed individuals (male or female). However, finding of the present study disagrees with a study of the tuberculosis patients by Green and Ottosson (1994).

Occupation is a significant factor in the development of pulmonary tuberculosis. This is supported by Seita, 1996, Leowsli et al., (1999), Cantwell & Miller, (1997) and Cesar et al., (1999) have provided reviews of the effects of occupational exposure interrelation to pulmonary tuberculosis. This present study finding estimated that 70.3% had relationship between the occupation and disease at early age group, compared with late age group presenting 56.6%. The study finding also illustrated that, coal and cement workers who have inhaled coal, dust and have a significant relationship with factor in the development of T.B.

Low per capita monthly income was observed to be a significant factor for pulm-

onary tuberculosis. This finding is in accordance with Garcia *et al.*, (1997), who sated that per capita monthly income is a significant factor associated with occurrence of pulmonary tuberculosis. High income allows individual to buy more food, have between housing and offer expanded health care.

Living condition is a picture of socioeconomic and a measure of personal and family status. Housing has significant impact on health. Higher income levels are correlated with higher level of living condition (Green and Ottoson, 1994). Poor housing and overcrowding are predisposing factors to tuberculosis (Torrance 1998). It was evident from the present study that the type of house, ventilation, lightening, room's number family size and crowding index are associated with an increased risk to pulmonary tuberculosis. Darkness provides as favorable condition for growth and viability of bacteria. Ultraviolet rays are rapidly bactericidal e.g. sunlight. Even diffuse daylight, as it enters a room through window glass, significantly shortens the survival of microorganisms and may be to hygienic importance (Greenwork *et al.*, 1992). In respect of number of rooms, family size and crowding, index the association of rooms with family size stand to reason, because, the smaller house is the greater the chance of exposure to tuberculosis (Kondo *et al.*, 1993).

It has been established that the BCG vaccination is the strongest explanatory variable decrease TB incidence among other antituberculosis measures. Moreover, it results in less morbidity and mortality in adults than many comprehensive infection control policies and procedures. In the present study, a finding indicates a defective BCG-coverage in our locality. Esmat *et al.*, (1985) found that 37.4% of the studied tuberculosis patients were BCG-vaccinated in Kafr El-Sheikh Mobashir and his

colleagues (1989) reported BCG coverage of 27% in Damietta. These conflicting results are most likely a consequence of the effectiveness of primary health services offered in different regions.

Analysis of different components of indoor air pollution score has demonstrated that type of housing is a significant factor associated with pulmonary tuberculosis, patients who live in a shared house are at greater risk than those living in private apartments are. This 12.3% of the Egyptian families live in shared house may be of importance in that context (Esmat *et al.*, 1985). However, host defenses are improved by better housing which include adequate ventilation, good lightening, and no crowding (Souhami and Moxham, 1997).

Poverty lead to bad and overcrowded housing and these may lead to a lower resistance as well as making infection more likely, Moreover, people living in such conditions are often badly nourished. The whole complex of poverty makes it easier for the pulmonary TB to cause disease (Crofton, 1992). The present study displays a positive association between pulmonary TB and socioeconomic status that is the lower the socioeconomic status, the more likely the person will develop with low socioeconomic status are likely to develop pulmonary TB than the one with high socioeconomic class. This is consistent with Bhatti *et al.* (1995) finding which indicate that socioeconomic status play a major role in the increase of tuberculosis incidence. This is also in agreement with result of Managtani *et al.*, (1995) as well as Enarson (1995) who found that tuberculosis is a disease known to be more prevalent among population of poor socioeconomic status.

Other variable such as cigarette smoking was not associated with increased risk to

pulmonary TB in the present study. This is Similar to Robinson and Comstock (1992). However, these findings were inconsistent with the result of Alcaide *et al.*, (1996) who reported that cigarette smoking was a risk factor for pulmonary TB with does-response relationship with the number of cigarette consumed daily. The differences in the findings may be because more the third of the study sample were females and almost all of them were non-smoker and the one third of males were ex. Smoker too, also this is attributed to the small sample size included in this study. Nutrition as a host factor is of great clinical and epidemiological importance for emergence of tuberculosis (Tverdal, 1986). Infection may have an effect on nutritional status and nutritional status may affect the resistance to infection in the individual (Cook, 1997; Daly-Gawenda *et al.*, 1997). The present study showed association between weekly consumption of animal protein and tuberculosis. Similar results were obtained by Schoeman *et al.*, (1991). However, Starchan *et al.*, (1995) findings revealed that a vegetarian diet is an dependent risk factor for tuberculosis in immigrant Asian and appear to be the main explanation for the Hindu excess incidence of tuberculosis.

CONCLUSIONS &RECOMMENDATIONS:

Based on results of the present study, it can be concluded that the following variables are identified significant risk factors for pulmonary tuberculosis: missing BCG vaccination, Low socioeconomic condition, Poor indoor air quality, Malnutrition, Diabetes and lastly poor patient's knowledge about pulmonary tuberculosis.

In view of the result obtained from the present study several recommendations were offered for helping in planning a preventive program for people in Egypt.

Screening of high-risk groups should conducted to detect individuals with TB infection and give them ionized chemo-prphylaxis to prevent them from developing clinical tuberculosis. Recent researches should be used as basis for its deliberation, and plan for action for improving the curriculum for tuberculosis and evaluation of the graduate, the content of the graduate, the content of the curriculum and the systems of evaluation are updated according to priorities in the national tuberculosis program, a follow-up of this study is needed to collect as much and comprehensive information as possible about the risk factors and the epidemiology of TB in Egypt. The emphasis must be placed on collecting and relapse rate.

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العوامل المؤثرة فى انتشار التدرن الرئوى لمرضى السل بمستشفى أسيوط الجامعى ومستشفى الصدر ـ أسيوط، مصر

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تهدف الدراسة إلى معرفة العوامل المسببة التى تؤثر فى انتشار الدرن الرئوى، أجريت الدراسة من خلال مجموعتين مختلفتين فى الواقعة الأولى (أ) فى مستشفى أسيوط الجامعى بقسم الصدر والعيادة الخارجية للدرن، والثانى (ب) بمستشفى وزارة الصحة للأمراض الصدرية، وقد تم اختيار الموفقين كميدان للدراسة للتعرف على العوامل المسببة التى تؤثر فى انتشار الدرن الرئوى.

العينة التى خضعت للدراسة تتكون من ٢٠٠ من المرضى تتراوح أعمارهم ما بين ١٨–٥٩ سنة، وهؤلاء الأشخاص حديثى العدوى، وقد جمعت المعلومات بواسطة أدوات طورتها الباحثة بعد فحص متقن فى مراجع. الإدارة الأولى : اشتملت على معلومات تتعلق بالدراسة الإحصائية للمرضى، المعيشية العامة وتقيم التاريخ المرضى لعينة الدراسة. والإدارة الثانية : تقيم الحالة الاقتصادية الاجتماعية للمرضى. والإدارة الثالثة : تلوث الهواء الداخلى بالمنزل. والإدارة الرابعة : تقيم الحالة الغذائية للمرضى.

وقد أخذت أراء مجموعة من الخبراء فى المجال بالإضافة إلى إجراء دراسة استرشادية من أجل اختيار الأربع أدوات: المحتوى، التكرار، صيغ الأسئلة، المصداقية.

نتائج الدراسة الحالية أوضحت أن هناك عوامل مسببة تؤثر فى انتشار الدرن الرئوى، كما أشارت إليه المراجع، وتلك الأسباب ذات مستويات مختلفة، وعكست نتائج الدراسة الحالية العديد من الأسباب التى تؤثر فى انتشار الدرن الرئوى فقد وجد بالنسبة للعلاقة بين مرضى الدرن الرئوى والعوامل المسببة ذات دلالة إحصائية بين العمر، العمل والحالة الاجتماعية المرضية وانتشار الدرن الرئوى.

كما وجدت علاقة عكسية بين تعاطى الأدوية وتطعيم (بى سى جى) والحالة الاجتماعية والاقتصادية للمرضى وتلوث الهواء الداخلى بالمنزل ومعدل انتشار الدرن الرئوى.

ودلت النتائج أيضا على وجود علاقة بين مشاكل الإنسان، والحالة الغذائية والأمراض السابقة ومعرفة المرضى بالدرن الرئوى ومدى انتشار الدرن الرئوى. كما أثبتت الدراية عدم وجود فرق إحصائى واضح بين المدخن وغير المدخن والتحاليل الطبية لعينة البحث ومشاكل الجهاز الهضمى ومعدل انتشار الدرن الرئوى.

بناء على النتائج المختلفة من هذه الدراسة تم اقتراح عدد من التوصيات التى تساعد فى تخطيط برنامج وقائى لمرضى التدرن فى مصر وعلى رفع مستوى وعى الممرضات فيما يتعلق بمرض التدرن والمستجدات فيه، وهى كالتالى :

١– يجب استخدام الأبحاث الحديثة كأساس لوضع الخطط العلمية للرقى بمناهج التدرن وتقييم الطالبات الخريجات، وكذلك يجب أن تكون أن يكون محتوى هذه المناهج وأنظمة التقييم حديثة وفقا للأولويات المذكورة ببرامج التدرن الوطنية .

٢– لابد من متابعة هذه الدراسة بجمع معلومات مكثفة عن عوامل الخطر والوباء للمرض، كما يجب الاهتمام بجمع معلومات عن خطر الإصابة السنوى، ونماذج مقاومة العلاج، ونسبة الانتكاس لدى المصابين.