

Study of the Relationship between Tuberculosis Diseases with Haemoglobin and Body Weight in Al-Nassairiya City

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Abstract

For the period from [1-8-2009] to [1-3-2010] were studied and estimate the proportion of tuberculosis disease. The relationship between the proportion of blood hemoglobin and body weight in Al-Hussein hospital education in Nasirriya and find a relationship between the following variables, age, sex, type of injury and different distribution of injuries for the Caspian as aural or city. The results showed discrepancy rate of occurrence and recording the incidence of cases of disease areas of the province as well as by age groups for injured.

Introduction

Tuberculosis (T.B) is an infection disease caused by bacteria whose scientific name is mycobacterium tuberculosis it was first isolated in [1882] German physician named Robert Koch who received the Nobel prize for this discovery—tuberculosis most commonly affects the lungs but also can involve almost with any organ of the body. Many years ago, this disease was referred to as consumption because without effective treatment, these patient often would waste away. Today of course tuberculosis usually can be treated successfully with antibiotic [1]. Tuberculosis is still one of the most significant of communicable disease especially in the developing countries. A mycobacterial disease which is important as major cause of disability and death in many parts of the world many factors predispose to ward is the development of Tuberculosis disease. children under the age of two are more than the older child, although the condition is not hereditary it is thought that susceptibility to it may increase with over—crowding poor living conditions and malnutrition all of which play their part in the incidence of the disease [2].

Tuberculosis program have failed to a chive control because they have not cured enough patients particularly the infection smear positive cases. The reasons for increasing global (T.B) burden are mainly and inadequate health coverage, moreover under funding of Tuberculosis control program which lead to inadequate case detection and poor cure rates [3].

The inhaled Tuberculosis bacteria enter the lungs they can multiply and cause a local Lung infection pneumonia .The local lymph nodes associated with the lung may also become involved with the infection and usually become enlarged [4]. Drug therapy for these organisms must be administered for one and half to two years and requires multiple medications [5]. A person can become infected with Tuberculosis bacteria when he or she inhales minute particles of infection sputum from the air. Tuberculosis is spread (transmitted) primarily from person by breathing infected air during close contact [6]. TB may produce signs and symptoms that include

hematologic abnormalities hyponatremia and psychological disorders. The most common hematologic manifestations of TB are increases in the peripheral blood leucocytes count and anemia the majority of blood which cells are polymer pronuclear leucocytes. Neutrophils represent over {90%} of the circulating granulocytes. The most important role of the neutrophil cells is in the innate immune response as part of the inflammatory response where they are able to eliminate may pathogens by phagocytosis [7].

Hemoglobin is the primary constituent with the red cell. Each red produces 500 million molecules of haemoglobin during its development each hemoglobin molecules is atetrad composed of four protein (globing) units has an attached haem unit hemoglobin production requires iron protoph

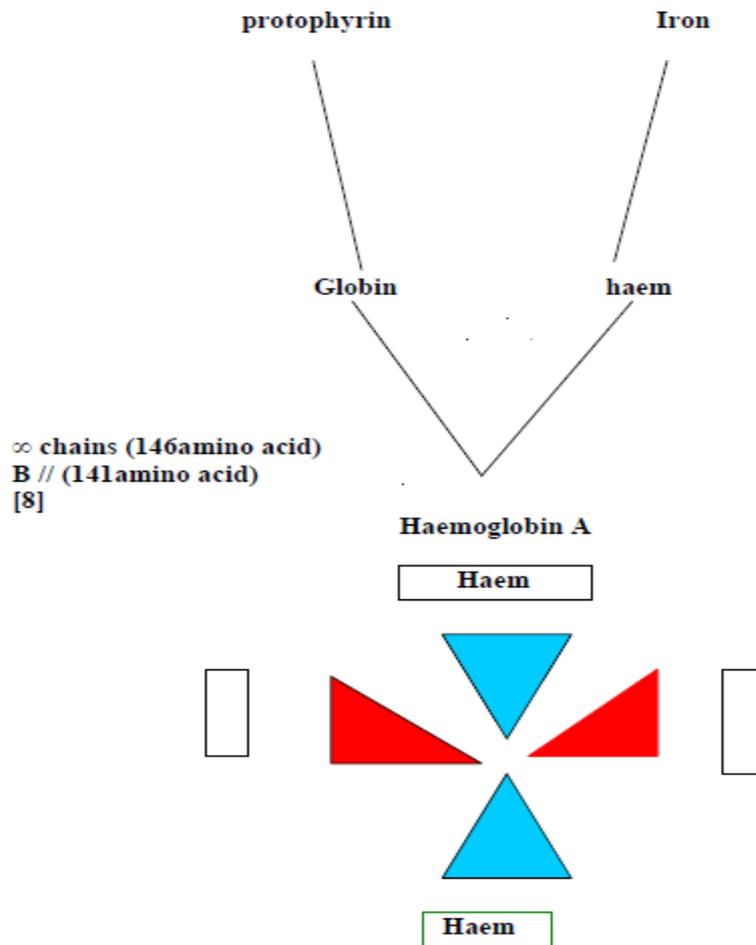


Figure (1): Haemoglolion production

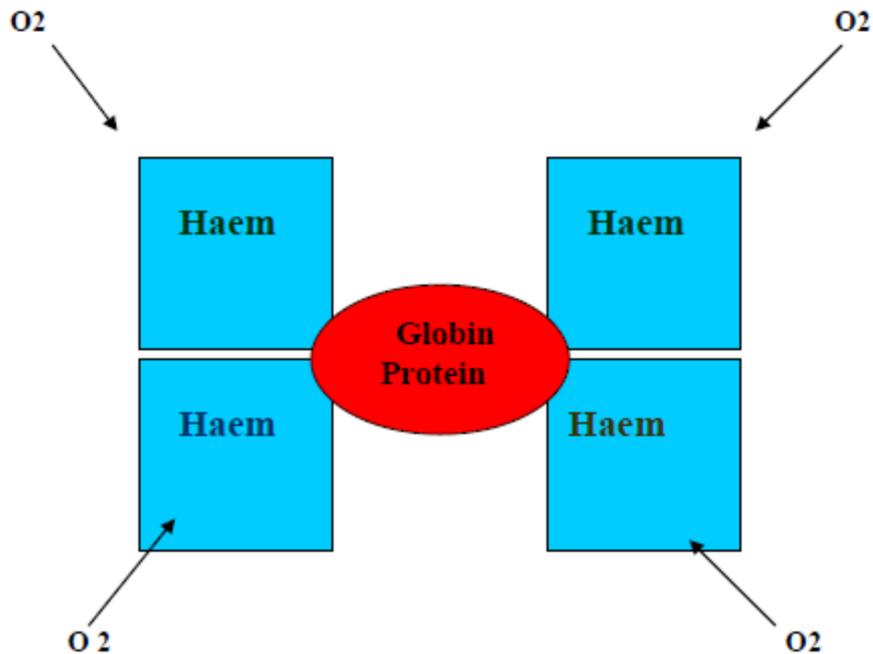


Figure (2): The combination of oxygen with Hb [8]

Aims of the study

- 1- To assess of effectiveness of the national tuberculosis program (N. T .P) and Dots program for tuberculosis control in Nassirriya.
- 2- Show the relation between hemoglobin and weight body with tuberculosis.

Materials and Methods

Across sectional study was conducted during the period the first of August 2009 to March 2010 in T.B and chest diseases center. a total of 200 cases were studied. Interview questionnaire which includes the demographic data sex ,age , cure treatment .Sputum analysis were done at the lab. Of the center.

Results

The study sample of the two groups are distributed according to age and sex in table males (61%) are affected more than females (39%) the mainly affected age group are (15 -24)= 90% , (45 – 54) = 10% , (55- 64) = 9.5% .

Table (1): Age and sex distribution of tuberculosis patients in N. T. P in Nassirriya city.

Age group	Sex				Total
	Male		Female		
	No.	%	No.	%	
<14	8	4	6	3	14
15-24	18	9	20	10	38
25-34	17	8.5	8	4	25
35-44	10	5	8	4	18
45-54	20	10	18	9	38
55-64	19	9.5	10	5	29
65-74	16	8	7	3.5	23
>75	114	7	1	.,5	15
	122	61.0	78	39.0	200

Table (2): Distribution of relapse number according to age sex on national T.B program.

Age group	Total Number of relapse	National T.B Program				Total
		Sex				
		Male		Female		
		No	%	No	%	
14	34	3	10.7	0	0	3
15-24	34	2	7.2	0	0	2
25-34	34	1	3.6	1	16.7	2
35-44	34	6	21.4	1	16.7	7
45-54	34	3	10.7	1	16.7	4
55-64	34	6	21.4	2	33.2	8
65-74	34	3	10.7	1	16.7	4
>75	34	4	14.3	0	0	4
Total	34	28	100	6	100	34

This table shows that the 34 cases of relapse on N. T. P, (28) cases were male relapse and (6) cases were female. They mainly affected age group for both male and female were (35-44). (16.7%), (55-64), (33%)

Table (3): Smear positive conversion to negative in patients after two months of chemotherapy in both program.

Total T.B Positive Patients		Smear Conversion to Negative	
No	%	No	%
66	33	66	100
62	31	56	96

This table shows that the (33%) of patients were positive from (200) cases on DoTs program while 31% were positive patient on N. T. P. The percentage of smear positive conversion to negative was completed in patients on DOTS program (100%). While the patients on N. T. P two months of treatment.

Table (4): Treatment outcome of smear positive patients for both programs.

Treatment	DoTs program		N . T . P	
	NO	%	NO	%
Cured	45	68.2	14	22.6
Completing treatment	14	21.2	17	27.4
Defaulter	6	9.1	28	45.2
Died	1	1.5	3	4.8

This table shows that (68.2%) cases was cured on old program while (22.6) cases on national T. B program, completing treatment was (21.2%) on DOTs while (27.4%) on N .T.P Defaulter (9.1%) on DoTs, while they were increasing total number of positive patient (66) cases for DoTs and (62) cases for N.T.P.

Table (5): Distribution of positive cases according to sex and category of patient on both programs.

Strategy of Treatment	Sex	Smear Positive Cases				Total	
		New		Retreated		NO	%
		NO	%	NO	%		
DoTs Program	Male (121)	41	62	-----	-----	41	62
	Female(79)	25	38	-----	-----	25	38
Total Cases		66	100	-----	-----	66	100
National T.B Program	Male (122)	36	58.0	-----	-----	36	58
	Female(78)	25	40.3	1	1.6	26	42
Total Cases		61	98.3	1	1.6	62	100

The sputum smear positive was (66%) cases in sample of DoTs and there is no retreated cases and the sputum smear positive cases was (62 %) in sample of N .T .P and the new number was (61 %) cases and there ids (1) retreated case.

Discussion

Patient age and sex most of tuberculosis cases occur in the age group of (20-49) years which represent men and women in their most productive years .Which resembles the findings in our study, where the number of patients fall in that same age group under both programmers.

Table (1) Showed the mainly affected age group are (15-24), (45- 54), (55-64) in N .T .P.

Program and the table (2) showed the mainly affected age group are (15 -24), (25-34), (35-44) in both table for both programmers in this study shows that number of male is more higher than female. The same finding had been found in Nepal where age number in males is higher than female [8-10]. Relapse number distribution. Relapse is return of smear positive patients after period from end or finish treatment and cure finding to the patients the period more than (3) months because present of resistance bacteria [11]. In this study finding (34) relapse cases from (200) cases that number male more than in female. Smear conversion rate is a sensitive indication of response to treatment [12].

The result in this study shows (100 %) conversion rate for DoTs patients (Table 4) while for national T.B program (N. T. P) patients the conversion rate was (90%) In Bangladesh, smear conversion of (85%) has been achieved after two months of treatment by DoTs [13-16].

Treatment outcome, the cure rate in this study was (68%) and completing treatment was (14%), so success rate which has reach is (89%) were cured or completed treatment [17]. The higher success rate in patient following DoTs (94%) than that of patient following (N. T. P) strategy treatment (50%) was due to observation of patient taking drug daily.

Conclusions

The percentage of patients with tuberculosis is significantly related to the age group, DoTs program and N. T. P. Tuberculosis impairment and represent (21.4. male 16.7 female) in age group (35- 44).

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الخلاصة

للفترة من (1-8-2009) إلى (1-3-2010) اجريت الدراسة لتقدير نسبة العلاقة بين مرض السل الرئوي و نسبة هيموكلوبين الدم ووزن الجسم في مدينة الناصرية، مع أيجاد علاقة بين المتغيرات التالية (العمر \الجنس\ونوع الإصابة\والبيئة\واختلاف توزيع الإصابات بالنسبة لطبيعة المنطقة كونها ريف أو مدينة) بينت النتائج وجود تباين في نسب حدوث وتسجيل الحالات المرضية بين مناطق المحافظة المختلفة وكذلك حسب الفئات العمرية للمصابين. ان الهدف من الدراسة هو لتقييم تأثيرات السل الرئوي على المريض والمساعدة في وضع برنامجا للسيطره على السل الرئوي في مدينة الناصرية. وسجلت الدراسة وجود علاقة بين انخفاض مستوى الهيموغلوبين في الدم والأصابة بالسل الرئوي. كما سجل وجود علاقة بين هيموغلوبين الدم ووزن المصاب.