Functional Status of Patient with Pulmonary Tuberculosis

الحالة الوظيفية لمريض السل الرئوي

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الخلاصة:

خلفية البحث: يعد السل من أهم الأسباب المعدية المؤدية للوفاة في جميع أنحاء العالم. يبقى مريض السل يعاني من مضاعفات المرض حتى بعد العلاج ويؤثر على جودة حياة المريض فيما بعد.

الهدف: تهدف الدراسة الى تقييم الحالة الوظيفية لمرضى السل الرئوي وكذلك لإيجاد العلاقة بين الحالة الوظيفية للمريض والمتغيرات الديموغرافية (السكن الجنس والعمر ونوع الوظيفة والحالة الاقتصادية ومدة المرض وعدد المرات السابقة لدخول المستشفى والتدخين)

المنهجية : دراسة وصفية بدأت بتأريخ الرابع من اذار ٢٠١٨ ولغاية الحادي عشر من أيلول ٢٠١٨، أجريت الدراسة في مدينة النجف الأشرف في العيادة الاستشارية لمرض السل وأمراض الصدر. تم اختيار عينة غرضية غير احتمالية. جمعت المعلومات من خلال إعداد استبانة تم بنائها لغرض الدراسة وتكونت الاستمارة من جزئيين الجزء الاول اشتمل على المعلومات الديمغرافية والسريرية والجزء الثاني اشتمل على (٥) مجالات تتعلق بالحالة الوظيفية لمريض السل الرئوي. و تم تحيد مصداقية الاستمارة من خلال عرضها على مجموعة من الخبراء ضمن الاختصاص.

النتائج: كشفت نتائج الدراسة أن التقييم العام لاستجابة المرضى لنطاقات الحالة الوظيفية مقبول. كما لم تكن هناك علاقة ذات دلالة إحصائية بين الحالة الوظيفية للمرضى والبيانات الديموغرافية الخاصة بهم، ماعدا العمر ومكان السكن.

الاستنتاج: استنتجت الدراسة إلى أن المرضى الذين يعيشون في المناطق السكنية الحضرية هم أكثر عرضة للإصابة بالسل الرئوي من أولئك الذين يعيشون في المناطق الريفية والذكور أكثر عرضة للإصابة بالسل الرئوي من الإناث.

التوصيات: تحسين دور الممرضين في القيام بأدوارهم نحو توجيه المريض حول الحالة المرضية الخاصة به، وكيفية التعامل مع مرضه للوصول الى حياة ذات جودة عالية وكذلك المتابعة المستمرة لجميع مرضى السل الرئوي خاصة أولئك الذين يعيشون في المناطق الحضرية لانهم اكثر عرضة للإصابة بالمرض.

ABSTRACT:

Background: Tuberculosis (TB) is among the top infectious causes of death worldwide. Patients with treated TB may remain lifelong sufferers of disabling sequelae of the disease which subsequently impair their quality of life.

Aims of study: The present study aimed to assess the functional status of patient with pulmonary tuberculosis and to and the relationship between the patients functional status and their Socio-demographic data which as (Residence, Gender, Age, Occupation, Socio-economic status, Duration of disease, number of previous hospitalization and Smoking).

Methodology: A descriptive study was used to achieve the study objectives. The study was started from March, 4th, 2018 to Sept., 11th, 2018. The study is conducted in a City of Al-Najaf Al-Ashraf in Consultant Clinic for tuberculosis and Chest Diseases. A non-probability accidental sample of thirty patients with pulmonary tuberculosis who are selected from patients whose visit the Consultant Clinic for T.B. and Chest Diseases in "Al-Hakeem General Hospital". Data collected on structured questionnaire planned specifically for this study, and it is consist of two parts: Part one Included Socio-demographic characteristics and clinical data, and Part two Include (5) domain related to functional status for patient with pulmonary tuberculosis. The study instrument validity is conducted through a panel of experts who have years of experience in nursing field. Data analysis by using descriptive and inferential statistics (percentage, frequency, mean of score and Chi-Square)

Results: The study results revealed that the overall assessment for the patients' response to the functional status domains is acceptable. Also there was no-significant relationship between the study subject functional status and their demographic data except with the study subject residency and age.

Conclusions: The study concluded that the patients living in urban residential area are more vulnerable to get pulmonary tuberculosis than those living in rural area and males also more vulnerable to get pulmonary tuberculosis than females.

Recommendations: improved the role of physician and nurse to take their roles toward instruct patient toward their disease and how to dealing problems to achieve the highly quality of life and continuous follow-up for all tuberculosis patients especially those who live in urban area.

Key wards: assessment, patient, pulmonary tuberculosis.

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INTRODUCTION

Tuberculosis (TB) remains to be a chronic infection with very high rates of morbidity and mortality. It has been estimated that each year there 8.9 million new cases and 1.6 million death worldwide [1]. Iraq has a high burden of Tuberculosis; the estimated incidence was 99 per 100,000 in 2013[2]. It is expected that TB incidence will be increase year by year due to

insufficient tuberculosis programs, population growth, and poverty, lack of medicine and emergence of multidrug resistance TB (MDRTB) [3]. Smoking more than 20 cigarettes a day also increase the risk of TB by two to four times. "The presence of extensive residual lung lesion may be a predicator of permanent disability following tissue destruction, corpulmonale and susceptibility to opportunistic infection, leading to reduce functional status. The histopathological finding resulting from tuberculosis includes the formation of caseous granuloma, tissue liquefaction and formation of pulmonary cavities [4]. Thus, delays in the diagnosis of TB lead to the increase in lung damage and more frequent co-morbidities and impairment of quality of life [5].

Treatment failure results in multidrug resistance and thus increases in the number of treatment, and can also be a factor in assessing the severity of the functional prognosis of patient [6, 7]. Post-tuberculosis patient may have limited exercise tolerance and significant disability which may affect daily activities [8,18]. A considerable proportion of patients do not know about the mode of spread of the disease. Awareness about investigation such as chest x-ray is significantly higher than that of sputum examination. Most of patients may not have enough knowledge about harmful squeal and duration of treatment which can affect their seriousness in following treatment protocol and control the disease. This research, therefore aims to assess the functional status for patient with pulmonary tuberculosis at Al-Najaf city.

AIMS OF STUDY
The present study aimed to assess the functional status of patient with pulmonary tuberculosis and to and the relationship between the patients functional status and their Socio-demographic data which as (Residence, Gender, Age, Occupation, Socio-economic status, Duration of disease, number of previous hospitalization and Smoking).

METHODOLOGY
Design of the Study:
A descriptive study was carried out at "Al-Najaf City/Al-Najaf Al-Ashraf Health Directorate" / in Consultant Clinic for T.B. and Chest Diseases from March, 4th, 2018 to Sept., 11th, 2018.
The Sample of the Study:
An accidental sample of (30) patients diagnosed with pulmonary tuberculosis selected from the Consultant Clinic for T.B. and Chest Diseases in "Al-Hakeem General Hospital."
The Study Instrument:
A questionnaire was designed by the researcher to assess the functional status of patients with pulmonary tuberculosis. The questionnaires are composed of two parts Part I: Scio-Demographic data and clinical data, Part II. Patient functional status
The Collection of Data:
Data was collected individual by use interview technique in the Consultant Clinic for T.B. and Chest Diseases. All study subjects were interviewed in a similar way and in a same place.
Data Analyses:
Data are analyzed through the use of SPSS (Statistical Package for Social Science) version (19) application.
The following statistical data analysis methods are used to analyze and assess the results of the study:
- Frequency, Percentage
- Mean of score
- Chi-Square

RESULTS:

Table (1): distribution of the study sample by social-demographic characteristics: No=30 patients

Demographic data	Rating	Frequency	Percent
Residence	Rural	7	23.3
	Urban	23	76.7
Gender	Male	23	76.7
	Female	7	23.3
Age/year	<= 20	2	6.7
	21 - 28	16	53.3
	29 - 36	9	30
	38 - 45	1	3.3
	46+	2	6.7
Occupation	Governmental	10	33.3
	Retired	1	3.3
	Private or self-Job	14	46.7
	Housewife	4	13.3
	Jobless	1	3.3
Socio-economic status	Satisfied	8	26.7
	Satisfied to some extent	10	33.3
	Unsatisfied	12	40
Duration of disease/years	<= 1	1	3.3
	2 - 4	25	83.3
	6+	4	13.3
No. of previous hospitalization	1	11	36.7
	2	9	30
	3	6	20
	4	2	6.7
	6	2	6.7
Smoking	Yes	18	60
	No	12	40

Table (1), shows that the majority of study sample (76.7%) from urban residential area. In regard to gender, the study finding show that (76.7%) of the study subjects were males and more than half of the samples are between (21-28) years. Furthermore, the results indicate that the (46.7%) of the study subjects work in private or self-job. Also the study results indicate that (40%) of the study subjects were unsatisfying about their socio-economic status. In addition, the majority of the study sample (83.3%) their duration of disease is about (2-4) years. Also, that (36.7%) of the study subjects were admitted ones previously to the hospital. And (60%) of the subjects were smokers.

Table (2): Frequency distribution of function status domains:

| Functional status domains	Rating	Frequency	Percent
Physical	unacceptable	2	6.7
	acceptable	28	93.3
Psychological	unacceptable	7	23.3
	acceptable	23	76.7
Social role	unacceptable	4	13.3
	acceptable	26	86.7
Social activity	unacceptable	8	26.7
	acceptable	22	73.3
Interaction	un acceptable	3	10
	acceptable	27	90

This table illustrate that the majority of the study sample responses to the studied domains was acceptable at all the study domains.

Table (3): overall assessment of Functional Status

	Rating	Frequency	Percent
Overall assessment	un acceptable	1	3.3
	acceptable to some extent	7	23.3
	acceptable	22	73.3
	Total	30	100

This table shows that the majority of the study sample over responses to the study phenomena (functional status) was acceptable.

Figure (1): Distribution of the study subjects by their overall responses to the Studied domains
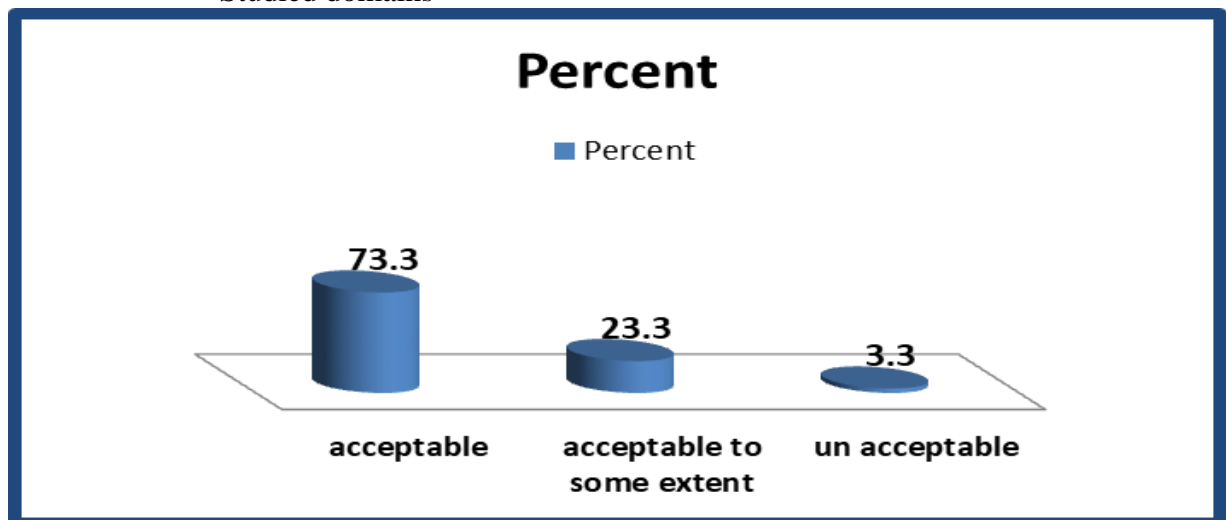
Table (4): Correlation between the study subjects' demographic data and by their overall responses to the studied domains

Siso-Demographic data	Rating	Overall Responses			p-value
		un acceptable	acceptable to some extent	acceptable	
Residence	Rural	0	4	3	0.041
	Urban	1	3	19	
Gender	Male	1	6	16	0.665
	Female	0	1	6	
Age / years	<= 20	0	0	2	0.04
	21 - 28	0	4	12	
	29 - 36	1	3	5	
	38 - 45	0	0	1	
	46+	0	0	2	
Occupation	Governmental	0	5	5	0.487
	Retired	0	0	1	
	Private or self-Job	1	1	12	
	Housewife	0	1	3	
	Jobless	0	0	1	
Socio-economic status	Satisfied	1	2	5	0.329
	Satisfied to some extent	0	1	9	
	Unsatisfied	0	4	8	
Duration of disease	<= 1	0	0	1	0.701
	2 - 4	1	5	19	
	6+	0	2	2	
No. of previous hospitalization	1	1	1	9	0.764
	2	0	3	6	
	3	0	2	4	
	4	.0	0	2	
	6	0	1	1	
Smoking	yes	1	5	12	0.517
	No	0	2	10	

This table shows that there is a non-significant relationship between the study sample functional status and their gender, occupation, socio-economic status, duration of disease, number of previous hospitalization and smoking except with the study subject residence and age, the study results indicate that there is a significant relationship at P-value less than 0.05.

DISCUSSION:
Part-I: Socio-Demographic Data and clinical data discussion

The results of the present study show that the majority of the sample living in urban residential area. This result agrees with the result of Manji *et. al.,* (2016) they find in their study that the majority of the study subjects' age were living in urban area. Pulmonary tuberculosis commonly spread in urban area due to many factor like overcrowding, mass burning and air pollutant. Regarding to the study subjects gender, the results indicate, that the

higher percentage of the study sample are males this result is in consistency with Manji *et. al*., (2016), they mentioned that the male is dominant gender of study sample. Also Mejri *et al.,* (2016), mentioned that the main patients were men.

Regarding to the sample age groups, the study results indicate that the higher percentage of the study sample are within (21 - 28) years [11]. Soni et. al., (2016), in their study Impact of pulmonary tuberculosis sequelae on functional status" who pointed that the highest percent were between (18–30) years old, regarding occupational status, the highest percentage is for Private or self-Job followed by the employed patients. This result is supported with [17]; the results indicated that the highest percentages are for free work (23.8%).

Concerning Socio-economic status, the highest percentage of study group is unsatisfied. This results came along with Hedhli et al., (2016) in their results indicate that the majority of study sample were unsatisfactory. Concerning to the duration of disease, the higher percentage for those who are suffering from the disease are between (2-4) years which is in consistency with Soni et al., (2016) in his dissertation "Impact of pulmonary tuberculosis sequelae on functional status" who stated that the high percentage of study sample were suffer from disease ≤ 3 years.

In addition to the smoking, the higher percentages of study sample are smoker. Several preceding studies were in agreement with this result they found that the majority of study subjects were smoker [11, 12,19].

Part-II: Discussion of the study sample by their Responses to the Studied Domains: (Table 2, 3):

The study results show that the final assessment of the patients' response to the physical, psychological, social role, social activity, interaction, and the follow up domains is acceptable, Furthermore, the overall assessment for the patients' response to the functional status domains also acceptable.

These results mean that there is a functional status for tuberculosis patient is not clearly affected by pulmonary tuberculosis disease. The results of the present study are supported by many previous study that indicated pulmonary tuberculosis (PTB) has been described as a long term disability which has overall acceptable effects on the physical and social aspects [14].

Also, Di Naso et al., (2011), in their study "Functional evaluation in patients with pulmonary tuberculosis sequelae" who demonstrates no significant increase in functional limitations in patients with pulmonary tuberculosis sequelae especially when had undergone multiple treatments.

Part-III: Associations between the Patients functional status and their demographic data: (Table- 4):

Regarding the result related to associations between patients functional status and their demographic data: (Table. 4). The current study reveals that there is no significant association between study subject functional status and some demographic data (gender, occupation, Socio-economic status, Duration of disease, number of previous hospitalization and smoking). Manji *et al*. (2016), they stated that there is no significant association between patients' functional status and socio-demographic characteristic at (P- value 0.432).

While results of present study find a significant association with (residency and age) at P-value less than 0.05. These result also supported by Manji et al., (2016), in his results indicate that there are a significant association between patient functional status and age at P-value (0.023).

CONCLUSIONS:

The study concludes that: the patients in urban residential area are more incidence to get pulmonary tuberculosis than persons they live in rural areas, male also more susceptible to get pulmonary tuberculosis than females; pulmonary tuberculosis has effect on overall functional status of patient with pulmonary tuberculosis and the study indicates that there is a weak relation between study sample functional status and their gender, occupation, socio-economic status, duration of disease, number of previous hospitalization and smoking except with the study subject residence and age.

RECOMMENDATIONS:

1. Improved the role of physician and nurse to take their roles toward instruct patient toward their disease and how to dealing problems to achieve the highly quality of life.
2. Continuous follow-up of all tuberculosis patients especially those who lives in urban area.
3. Further studies should be conduction with a larger sample (national level) including both rural and urban populations.
4. Activating community nurse role in Public Medical Clinics to increase chronic diseases patients' knowledge about pulmonary tuberculosis in term of its risk factors and warning signs.

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