Effectiveness of An Instructional Program on Pulmonary Tuberculosis Patients Quality of Life Concerning General Health-Related among sample in Baghdad City

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فاعلية برنامج تعليمي على جودة حياة مرضى التدرن الرئوي المرتبط بالصحة العامة في عينة من مدينة بغداد

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المستخلص:

الهدف: يهدف البحث الى تقويم جودة حياة مرضى التدرن الرئوي قبل وبعد تطبيق البرنامج التعليمي المقترح ولتقدير العلاقات المتحققة ما بين توزيع التقييم الإجمالي لتطوير جودة نوعيه الحياة والمتغيرات المتعلقة بالخصائص الديموغرافية.

المنهجية: استخدم التصميم التجريبي لنموذج التحكم الذاتي لدراسة أثر تطبيق البرنامج التعليمي على نوعية حياة مرضى التدرن الرئوي لعينة بحجم (٦٥) من المرضى المراجعين المراكز الصحية التابعة لقطاع مدينة الصدر العيادة الاستشارية للإمراض الصدرية والتنفسية في صحة الرصافة، ومستشفى ابن الزهر في مدينة بغداد. البرنامج التعليمي طبق بأسلوب الاختبار القبلي و البعدي للتحقق من مستوى التحسينات على العينة المبحوثة فيما يتعلق بجودة نوعية الحياة. هذه الدراسة استخدمت تصميم أستبانة جودة الحياة العامة المعدة من قبل منظمة الصحة العالمية. تم استخدام طرائق الإحصاء الوصفي ممثلةً بــ (التكرارات الملاحظة، النسب المئوية، متوسط القياس، الانحراف المعياري، الكفاية النسبية، طريقة الغصن–الورقة البيانية) لتقييم التطور في جودة الحياة العامة، بالإضافة إلى استخدام أساليب الإحصاء الاستدلالي ممثلةً بــ (اختبار ولكوكسن لرتب الإشارة، واختبار ماكنمار و تحليل التغاير).

النتائج: لقد بينت نتائج البحث أن المرض المبحوث يصنف ضمن أمراض العوز، أو الفقر، كما أشارت النتائج بوضوح أيضا إلى ارتفاع نسبة إعداد المدخنين من السكائر أو أي نوع أخر من التبغ خاصة لمن تجاوزت فترة تدخينهم أكثر من ١٠ سنوات. النتائج أكدت بأنه يوجد فرق ذو دلالة إحصائية عالية عند مستوى P<0.01 ما بين الفقرات المتعلقة بالمضاعفات المتلازمة. حيث ارتفاع أعداد المرضى الذين يعانون من الأم الصدر، صعوبة التنفس/ عسر التنفس، فقدان الشهية وفقدان الوزن، النحول العام، وخصوصاً عند سؤالهم : هل يوجد هناك أي شخص مصاب بعائلتك ؟ حيث أشارت بعض استجابات المبحوثين بحالة الاتصال بالمرض إلى عدد من الإصابات المسجلة سابقا ضمن عائلة المصاب أثر.

اثر البرنامج المقترح قد أظهر تقدماً واضحاً لمرضى التدرن الرئوي والنتائج أشارت بوضوح بأن معظم فقرات الاستبانة قد حققت فرقاً معنوياً بدلالة P<0.05، بالإضافة إلى ضعف العلاقة ما بين مستوى التحسن بجودة الحياة باختلاف الحالة الاجتماعية – الاقتصادية للمستجيبين بدلالة أكبر من مستوى P>0.05.

التوصيات: تطبيق البرنامج التعليمي المقترح في جميع العيادة استشارية للإمراض الصدرية والتنفسية و وحدات منسق التدرن التابعة لها بعد تدريب موظفين متخصصين، للمرضى الذين يحضرون المراكز شهريا، دعوة مريض سابق الذي كان يعاني من المرض لحضور المحاضرات ومشاركة الآخرين بتجربته الخاصة عن تأثير المرض على نوعية الحياة و مشاركة وجهات النظر المختلفة في حلقات نقاش مفتوحة، أيضا التزام الحكومة بتقديم كل الدعم للبرنامج الوطني لمكافحة التدرن بشكل عام ومرضى التدرن بشكل خاص وذلك من خلال دعم الحالة الاجتماعية والاقتصادية و تقديم التبرع المالي.

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Abstract:
Objective(s): This research aims at evaluating the quality of pulmonary tuberculosis patients life before and after applying the suggested instructional program, and to find out relationships among distribution of an overall assessment quality of life improvement and socio-demographic characteristics variables.

Methodology: Self controlled design studying effectiveness of applying instructional program on quality of life for pulmonary tuberculosis patients among sample size (65) patients from primary health care centers/AL-Sadur City sector-the consultation clinic of chest and respiratory diseases at AL-Rusafa health directorate, and Ibn-Zuhr Hospital at Baghdad city. An instructional program has been applied with an approach of pre-test and post-test for checking improvements on the study sample concerning quality of life. This study applied format of General World Health Organization Quality of Life-BERF Questionnaire.The methods used descriptive statistics (Observed frequencies, percentages, mean of score, standard deviation, relative sufficiency, and Stem–Leaf plot method) to evaluate the General QoL-Improvements, as well as inferential statistical methods are used such that (Wilcoxon Signed Rank, McNemar, and Analysis of covariance (ANCOVA)).

Results: Results shows that studied disease is classified to indigence diseases, as well as results shows effective of smoking cigarette/or any other types especially for those who had smoking long duration more than 10 years. Results indicated that there has been a highly significant differences at P<0.01 among different responding complain items, and increases patients who had suffered from: "chest pain, difficult breathing / dyspnea, anorexia, weight loss, general weakness, and especially when answering: Is there any infected member in your family?", which have cleared the effectiveness of

diseases communication . Suggested of instructional program shows a highly stating of improvements with pulmonary tuberculosis patients and results illustrated that most of questionnaire's items are assigned meaningful improvements significantly at P-values <0.05, as well as weak relationships are accounted between General QoL improvements and Socio-demographical Characteristics variables, with no significant relationships at P-values >0.05.

Recommendations: Application the suggested instructional program in all consultation clinic for chest and respiratory disease and its coordinator tuberculosis units after training specialized staff, for patients who attending the centers monthly, Invite previous patient who was suffered from the disease to attendance the lectures and to participate with his own experiment about the impact of the disease on quality of life and shared differing viewpoints, in open discussion circles. Governmental commitment by offering all support to the National Tuberculosis Program generally and to TB patients especially, by enhancing their socio-economic state by providing financial donation.

Key Words: Pulmonary Tuberculosis Disease, General Quality of Life, Health-Related , WHO QoL-BERF Questionnaire, TB instructional program

Introduction:

Tuberculosis (TB) is an infectious bacterial disease caused by *Mycobacterium tuberculosis* bacilli which, typically affects the lung, but any part of the body can be affected such as, liver, pleural, brain, bone, it is air born disease which the infection occurs by inhalation of infected droplets nuclei[1]. Active tuberculosis disease that effected the lungs usually characterized by coughing, sometimes with sputum or blood, chest pains, weakness, weight loss, fever and night sweat [2].

Tuberculosis TB remains an important public health problem and ranks as the second leading cause of death among infectious diseases worldwide, after the Human Immunodeficiency Virus (HIV) infection. TB new cases estimated nearly 10 million per year, also 2 billion of the world's population are thought to be infected with *M. Tuberculosis* as a latent infection, new infection are occurring at the rate of one per second [3,4]. Predictable that the number of TB related deaths will rise from 3 to 5 million per year by 2050 if control is not further strengthened. TB is not only a problem for the health of the individuals but also a major obstacle to the economic and social development for the developing countries[4]. TB is a classic illustration of disease with both medical and social dimensions, characterized by its close relation to poor socio-economic conditions[5]. The impact of chronic disease like TB create multiple burdens for patients including physical, social, and mental distress, that lead to poor disease outcome, poor treatment outcome, and reduced Quality of Life (QoL)[6]. The World Health Organization (WHO) defined QoL" ability of individuals to perceive their position in life within the cultural contextual and the value systems in which they live, being in accordance with their goals, expectations, standards and concerns"[7].The effect of chronic diseases like TB on health condition and health care expenditures is very great, there for its managing considers one of the major challenges of modern medicine, and TB patients would be helpful in concerning their life management of the illness[8]. The importance of this study come from all impairment resulted after lung infectious TB disease which affected their functioning of daily life and development tasks. For these reasons this paper aimed to explore and to assess the impact of suggested an instructional program that may improve quality of life's patients and could be playing a part in how people handle their illness.

Aims of the Study:

The present study aims at:

1. Assessing quality of pulmonary tuberculosis patients life before and after applying the suggested of an instructional program.
2. Identifying (SDCv) on the distribution of QoL improvements before and after applying the suggested instructional program on patients with pulmonary tuberculosis.
3. Enhance the quality of life after applying instructional program in patients with pulmonary tuberculosis.

Methodology:

Design of study: A self controlled design for studying effectiveness of applying instructional program on pulmonary tuberculosis patients among convenient sample in Baghdad city. An instructional program has been constructed and applied with an approach of pre-test and post-test for checking improvements on the study sample concerning quality of life. This study carried out from November 1st، 2015 to April 1st 2016.

Setting of the Study:

There are two consultation clinic for chest and respiratory diseases at Baghdad city, one in AL- Rusafa sector and one in AL- Karkh sector. The researchers choose patients from primary health care centers/AL-Sadur city sector-the consultation clinic of thoracic and respiratory diseases at AL-Rusafa health directorate, and Ibn-Zuhr Hospital at Baghdad

city, since individuals reflects the state of convenience sample. From that health institutions, patients with pulmonary tuberculosis had been chooses with their permission to be included in the study program randomly, the total sample was (65) patients, which were the study conducted.

Steps of the Study:

For an implementation quality of life instructional program to assess effectiveness of instructional program on pulmonary tuberculosis patients concerning criteria "General", quality of life questionnaires. To assesses patients needs, This study use a reliable questionnaire format of General QoL Questionnaire WHO QoL-BERF" Program on Health World Health Organization", which consists (26) items distributed among four main domains, such that Physical, Psychological, Social, and Environment, as well as two question for rating and satisfying patients QoL. This study take into

consideration the significant of patients socio-demographical characteristics variables, as well as some general information such that, smoking, drinking alcohol, taking addiction drugs. In addition to that, this study take into consideration the complains might be resulted by the studied disease. The researcher interviewed patients, for (30 – 45) minutes to answered all questions. The results of the initial assessment before applying the instructional program indicated that patients having unsatisfactory QoL toward them self, which indicated their needs of the suggested program.

Reliability of pilot study :

A convenient sample of ten patients were selected randomly. Table (A) showed estimation of reliability coefficients of pilot study, this results shows that intra examiner (test & pretest), and inter examiners recorded highly and adequate outcomes, throughout using Al-Naqeeb Formula[9] :

$$Relibility value = \left(1 - \frac{no.\ of\ noncoincidences\ items}{no.\ of\ all\ items * sample\ size\ of\ pilot\ study} \right) * 100\%$$

Table (1): Reliability Coefficients of the Pilot Study

Reliability Coefficients	Actual values
Inter Examiners	93.08 (18:260)
Intra Examiner	90.38 (25:260)

Reliability of questionnaire:

Internal consistency was calculated by using: Alpha Cronbach, as shown in table (B) the internal consistency in light of responses is

successful, all these means designed questionnaire were valid to study the phenomenon on the same population at any time in the future.

Table (2): Reliability Coefficients of the Studied Questionnaire's for Who had Overweight and Obesity

Reliability Coefficients	Questionnaire	Standard lower bound	Actual values	Assessment
Methods of Reliability	Alpha (Cronbach)	0.70	0.9431	Excellent

Statistical analysis methods:

Statistical data analysis approaches were used in order to analyze and assess results of this study which classified in two parts, descriptive statistics, such that Tables Frequencies, Percentages, association tables, and graphical presentation throughout using .

cluster bar chart], and inferential statistics, such that [Chi-Square for testing the independency, Binomial test for testing two categories nominal scale, ACNOVA, McNemar test for the contingency table for test significant of improvement relationship.

Results:

Table (3): Distribution of Demographical Characteristics variables with Comparative Significance

SDCv.	Groups	F	%	C.S. [*] P-value
Age Groups	< 20	11	16.9	χ^2= 8.200 P=0.146 (NS)
	20 _ 29	14	21.5	
	30 _ 39	17	26.2	
	40 _ 49	9	13.8	
	50 _ 59	5	7.7	
	60 >	9	13.8	
	Mean ± SD	36.94 ± 16.57		
Gender	Male	41	63.1	P=0.047 (S)
	Female	24	36.9	
Marital Status	Single	15	23.1	χ^2= 46.200 P=0.000 (HS)
	Married	39	60	
	Divorced	5	7.7	
	Widow	6	9.2	
Education level for patients	Illiterate	9	13.8	χ^2= 27.215 P=0.000 (HS)
	Read & Write	6	9.2	
	Primary	26	40	
	Intermediate	9	13.8	
	Secondary	10	15.4	
	institute & More	5	7.7	
Education level for (wife/ or husband/parents of upper level)	Illiterate	18	27.7	χ^2= 34.415 P=0.000 (HS)
	Read & Write	10	15.4	
	Primary	24	36.9	
	Intermediate	8	12.3	
	Secondary	3	4.6	
	institute & More	2	3.1	
Job of patients (Occupation)	High Professionals, or owner of large land	0	0.0	P=0.000 (HS)
	Lower professionals, skilled and semiskilled	16	24.6	
	Unskilled workers as laborers, farmers casual workers, …	49	75.4	
Job of parents (Occupation)	High Professionals, or owners of large land	0	0.0	P=0.000 (HS)
	Lower professionals, skilled and semiskilled	11	16.9	
	Unskilled workers as laborers, farmers …	54	83.1	
Residency	Urban	51	78.5	P=0.000 (HS)
	Rural	14	21.5	
Socio-Economic Status	Low	58	89.2	P=0.000 (HS)
	Moderate	7	10.8	
	High	0	0.0	

[*] **HS: Highly Significant at P< 0.01; S: Significant at P< 0.05; NS: Non Significant at P> 0.05; F: Frequency, and %: Percent; CS: Comparative Significance, P: probability level. Testing of random distribution are based on (Chi-Square and Binomial tests)**

Results show that all the studied of (SDCv.) reported significant differences at P<0.01, except gender which are represented significant different at P<0.05, and age groups had no significant at P>0.05.

It could be concluded that all studied patients were recorded "Low & Moderate" socio-economic status levels, and they are accounted 65 (100%). It could be concluded that studied disease are under the umbrella of indigence diseases.

Table(4): Sample's Distribution According to General Information

General Information	Groups	F	%	C.S. [*] P-value
Do you smoking cigarette/or any others type	NO	32	49.2	P=1.000 (NS)
	Yes	33	50.8	
If yes, what is the duration of smoking?	< 5 yrs.	3	4.60 (09.1)	χ^2= 303.6 P=0.000 (HS)
	5 - 10 yrs.	8	12.3 (24.2)	
	> 10 yrs.	22	33.8 (66.7)	
Are you Ex- smoker?	NO	59	90.8	P=0.000 (HS)
	Yes	6	9.2	
Are you passive smoke ?	NO	44	67.7	P=0.006 (HS)
	Yes	21	32.3	
Do you drink alcohol ?	NO	60	92.3	P=0.000 (HS)
	Yes	5	7.7	
Do you take addiction drugs?	NO	64	98.5	P=0.000 (HS)
	Yes	1	1.5	
Duration of illness	< 5 yrs.	56	86.2	P=0.000 (HS)
	> 5 yrs.	9	13.8	
Are you under treatment now?	NO	56	86.2	P=0.000 (HS)
	Yes	9	13.8	

[*] **HS: Highly Significant at P< 0.01; S: Significant at P< 0.05; Testing of random distribution are based on (Chi-Square and Binomial tests).; F: Frequency, and %: Percent. CS: Comparative Significance, P: probability level**

Results indicate a highly significant differences at P<0.01 among different levels of the studied (General Information), except for asking "Are you smoking cigarette/or any other types", which represented no significant differences at P>0.05, and that assigned clarity effectiveness of smoking cigarette/or any others type, especially for those who had smoking duration more than 10 year.

Table(5): Sample's Distribution According to Patient's Associated Factors with Comparative Significant

Associated Factors	Groups	F	%	C.S. [*] P-value
Chronic Lung Disease	NO	53	81.5	P=0.000 (HS)
	Yes	12	18.5	
Diabetes Mellitus	NO	57	87.7	P=0.000 (HS)
	Yes	8	12.3	
Certain Medications [**]	NO	59	90.8	P=0.000 (HS)
	Yes	6	9.2	
Genetic Susceptibility (throw family history)	NO	33	50.8	P=1.000 (NS)
	Yes	32	49.2	

[*] **HS: Highly Significant at P<0.01; S : Significant at P<0.05; NS : Non Sig. at P>0.05; Statistical Hypothesis based on Binomial test. F: Frequency, and %: Percent; CS: Comparative Significance, P: probability level.**
[**] **Certain medications as corticosteroids, Infliximab, and TNF monoclonal antibody)**

Results in table (5) indicate that there has been a highly significant differences at P<0.01 due to different levels of studied (Associated Factors), except for "genetic susceptibility", which represented no significant differences at P>0.05.
Relative to "Chronic Lung Disease" 12(18.5%) had chronic diseases, and 8(12.3%) had diabetes mellitus, and 6(9.2%) had a certain medications, such that, (Corticosteroids and Infliximab, and TNF monoclonal antibody), and finally half of studied subjects having a genetic susceptibility, and they are accounted 32(49.2%).

Table (6) : Summary Statistics of Patients Responding Concerning General Quality of Life's Items at Different Periods (Before and After Instructional Program) with Comparisons Significance

General QoL Questionnaires	No.	Pre test			Post test			Z-value	Sig. (*) P-value	CS
		MS	SD	RS%	MS	SD	RS%			
How would you rate your QOL?	65	3.85	0.89	77.0	2.92	0.82	58.4	-5.175	0.000	HS
How satisfied are you with your health?	65	2.97	0.93	59.4	3.11	1.00	62.2	-0.897	0.370	NS
To what extent do you feel that physical pain prevents you from doing what you need to do?	65	3.22	0.91	64.4	3.11	0.87	62.2	-0.811	0.417	NS
How much you need any medical treatment to function in your daily life?	65	3.14	1.01	62.8	3.74	0.59	74.8	-3.843	0.000	HS
How much do you enjoy life?	65	2.37	0.91	47.4	2.82	0.68	56.4	-3.629	0.000	HS
To what extent do you feel your life to be meaningful ?	65	2.46	0.87	49.2	3.32	0.85	66.4	-4.883	0.000	HS
How well are you able to concentrate?	65	2.48	0.71	49.6	2.82	0.61	56.4	-3.773	0.000	HS
How safe do you feel in your daily life ?	65	2.26	0.78	45.2	3.12	0.63	62.4	-5.347	0.000	HS
How healthy is your physical environment ?	65	2.98	0.82	59.6	2.17	0.42	43.4	-5.281	0.000	HS
Do you have enough energy for everyday life?	65	2.48	0.71	49.6	3.00	0.53	60.0	-5.009	0.000	HS
Are you able to accept your bodily appearance?	65	2.14	0.75	42.8	2.91	0.61	58.2	-5.868	0.000	HS
Have you enough money to meet your needs?	65	2.02	0.72	40.4	2.05	0.76	41.0	-0.535	0.593	NS
How available to you is the information that you need in your day to day life?	65	1.98	0.60	39.6	3.68	0.47	73.6	-7.090	0.000	HS
To what extent do you have the opportunity for leisure activities ?	65	2.22	0.62	44.4	2.82	0.66	56.4	-5.514	0.000	HS
How well are you able to get around?	65	2.42	0.73	48.4	3.35	0.80	67.0	-6.126	0.000	HS
How satisfied are you with your sleep?	65	2.18	0.88	43.6	3.12	0.78	62.4	-5.745	0.000	HS
How satisfied are you with your ability to perform your daily living activities?	65	2.15	0.85	43.0	3.62	0.63	72.4	-6.698	0.000	HS
How satisfied are you with your capacity for work ?	65	2.18	0.88	43.6	3.31	0.77	66.2	-5.477	0.000	HS
How satisfied are you with yourself ?	65	2.29	0.93	45.8	3.57	0.64	71.4	-6.020	0.000	HS
How satisfied are you with your personal relationships?	65	2.91	0.91	58.2	3.22	0.62	64.4	-2.480	0.013	S
How satisfied are you with your marital life?	65	3.25	0.87	65.0	3.57	0.98	71.4	-4.031	0.000	HS
How satisfied are you with the support you get from your friends?	65	3.45	0.75	69.0	3.52	0.66	70.4	-0.836	0.403	NS
How satisfied are you with the conditions of your living place?	65	3.12	0.86	62.4	1.97	0.53	39.4	-6.160	0.000	HS
How satisfied are you with your access to health services?	65	3.74	0.62	74.8	4.18	0.56	83.6	-3.958	0.000	HS
How satisfied are you with your transport?	65	2.63	0.76	52.6	3.26	0.57	65.2	-4.878	0.000	HS
How often do you have negative feeling such as blue mood, despair, anxiety, depression?	65	3.85	0.81	77.0	2.71	0.70	54.2	-6.187	0.000	HS

(*) HS: Highly Significant at P<0.01; S: Significant at P<0.05; HS: Non Significant at P>0.05; Statistical hypothesis based on Wilcoxon signed rank test. CS: Comparative Significance, P: probability level; MS: Mean of score; SD: Standard deviation; RS: Relative sufficiency

Red color items reversed measuring scale, and that revere an assessments scores

Regarding subjects of table (6) shows summary statistics, mean of score, standard deviation, and relative sufficiency of the studied sample either initially at pre period or at post period of time after applying suggested instructional program, and that assessed by questionnaire's items format of General WHO QoL-BERF Questionnaire, as well as comparisons significant through "Wilcoxon sign rank" test are represented, and illustrated that most of questionnaire's items were assigned meaning improvements in at least at P<0.05 of positive effectiveness, and are accounted 22(84.6%), except with items assigned with (NS), which showed no significant improvement at p-value >0.05, since they are initially illustrated a positive assessed. and it could be concludes that instructional program application are played a meaningful effects.

Table (7) : Summary Statistics of (Instructional Program) Concerning General Quality of Life's Main Domains at Studied Periods with Comparisons Significance

General QoL	No.	Pre test			Post test			Z-value	Sig. (*)	CS
		GMS	SD	RS%	GMS	SD	RS%			
Physical	65	2.437	0.558	48.7	3.079	0.473	61.6	-6.124	0.000	HS
Psychological	65	2.315	0.521	46.3	3.121	0.511	62.4	-6.727	0.000	HS
Social	65	3.200	0.555	64.0	3.436	0.556	68.7	-3.522	0.000	HS
Environment	65	2.619	0.343	52.4	2.906	0.312	58.1	-5.146	0.000	HS
General QoL	65	2.643	0.398	52.9	3.135	0.369	62.7	-6.479	0.000	HS

(*) **HS: Highly Significant at P<0.01 Statistical hypothesis based on Wilcoxon signed rank test. ; Sig.: Significant level; GMS: Grand mean of score; SD: Standard deviation; RS: Relative sufficiency; CS: Comparative significance**

Results in table (7) show general quality of life part, which are included "Physical, Psychological, Social, Environment, and General QoL", as well as comparisons significant throughout "Wilcoxon sign rank" test are represented, and illustrated that all questionnaire's main domains assigned meaning improvements at p-values <0.01 due to effectiveness which were obtained positively by suggested of instructional program application. For summarizing preceding results, it could be concluded that instructional program application in light of compact form of different main domains are applying meaningful role concerning general quality of life for the studied subjects. Figure (1) Represented graphically the preceding improvements of general QoL by using (Stem – Leaf) plot.
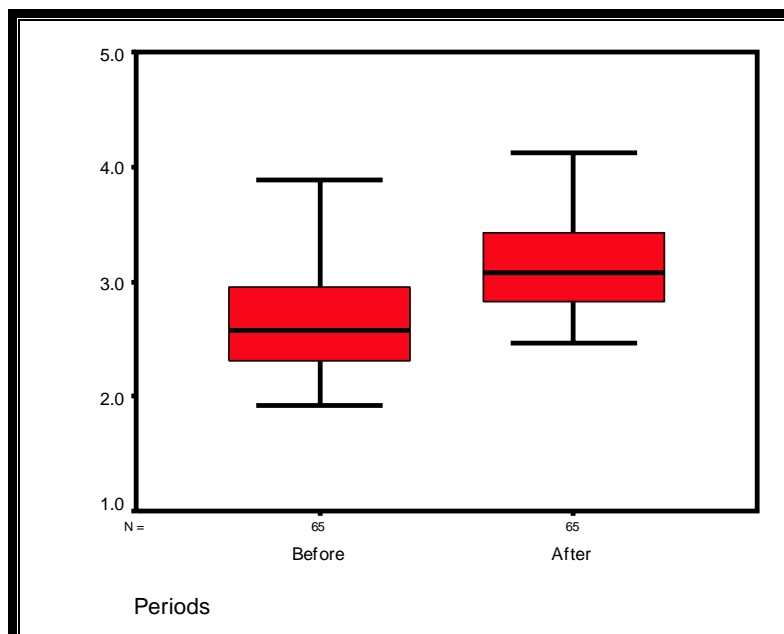
Figure(1): Stem – Leaf Plot of Grand Mean Scores Concerning General QoL Main Domains at Studied Periods

Table(8): Redistribution (Under/Upper) Cutoff Point at the Two Periods Throughout General QoL

| Overall Assessment | Period | No. and Percent | General After | | Total | C.S. [*] P-value |
			Under	Upper		
General Before	**Under**	No.	24	28	52	**McNemar test P=0.000 HS**
		%	36.9%	40.1%	80%	
	Upper	No.	0	13	13	
		%	0.0%	20%	20%	
	Total	No.	24	41	65	
		%	36.9%	60.1%	100%	

(*) HS: Highly Significant at P<0.01 Statistical hypothesis based on McNemar test; CS: Comparative Significance, P: probability level

Results in table(6) show that 28(40.1%) of studied subjects had positive improvement throughout applying of studied instructional program in light of general QoL, with highly significant. Figure (2) Represented graphically the preceding improvements by using cluster bar chart.
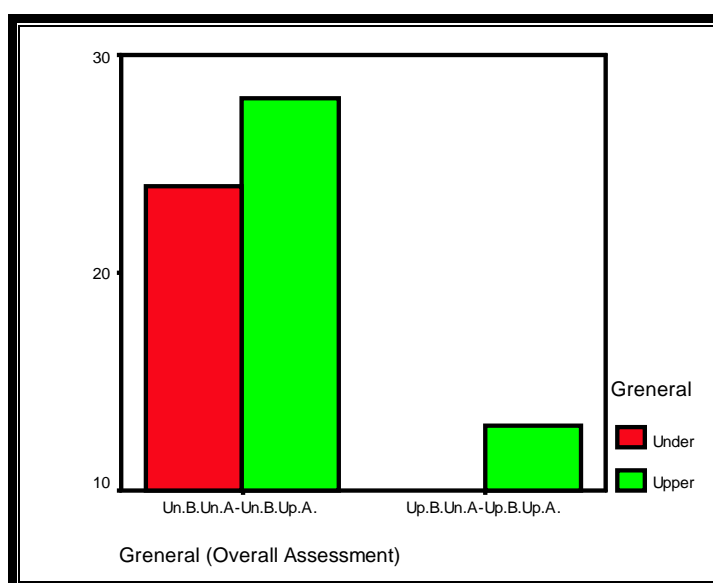

Figure (2): Cluster bar chart of General QoL Along Two Periods (Before, and After) of Applying Program

Table(9): ANCOVA Method among Two Periods Concerning Responding of an Overall Assessments General QoL in Light of Socio-Demographical Characteristics

Source of variations	Type III Sum of Squares	d.f	Mean Square	F Statistic	Sig. Levels	C.S. [*]
Corrected Model	4.021	17	0.237	2.367	0.010	HS
Intercept	78.47	1	78.47	785.2	0.000	HS
Gender	0.006	1	0.006	0.060	0.807	NS
Age Groups	0.689	5	0.138	1.379	0.249	NS
Marital Status	0.228	3	0.076	0.760	0.522	NS
Education level for patients	0.208	5	0.042	0.415	0.836	NS
Job of patients	0.064	1	0.064	0.643	0.427	NS
Residency	0.000	1	0.000	0.004	0.948	NS
Socio-Economic Status	0.083	1	0.083	0.829	0.367	NS
Error	4.697	47	0.100			
Total	647.7	65				
Corrected Total	8.718	64				
R Squared = 0.461 (Adjusted R Squared = 0.266)						

(*) HS: Highly Significant at P<0.01; Non Significant at P>0.05; Statistical hypothesis based on Analysis of Covariance (ANCOVA) test. R Squared: Determination coefficient; CS: Comparative Significance, P: probability level

In Table (9), results show weak relationships are accounted within part of general QoL improvements and socio-demographical characteristics variables, since no significant relationships at P>0.05. And accordance with this results, it could be conclude that studied questionnaire of studying "General Quality of Life", for who had TB disease through overall assessments regarding to (Improvements) of applying program could be amending for TB patients whatever presents differences with their (SDCv.).

Discussion:

With respect to discussion of socio-demographic characteristics of pulmonary TB patients most studies are to be similar turned out of present study which indicated that among infected persons incidence of TB is highest with male at during late adolescence and early adulthood that age groups, and that may be due to that groups are more contact with environmental factors, and low socioeconomic status[10].

General information subjected within studied disease throughout course of the data analysis of present study and regarding smoking cigarette or any other tobacco types, findings indicated half of studied patients are smokers. This result is agreed with report published in the world lung foundation, which says that eighty percent of the world's TB cases are located in just 22 countries. many of those countries also have very high smoking rates. India, China and the Russian Federation are all hard-hit by the twin epidemic[11].

Associated factors subjected within this study, such that "Chronic lung disease, Diabetes Mellitus, and Genetic susceptibility", results showed that the percentage is inconsiderable recorded, especially about genetic susceptibility cases, and that in agreement with finding of study done by Chronic Lung Disease [12]. They concluded that in TB endemic areas, the disease is strongly associated with the presence of chronic respiratory disease in adults, as well as with the finding of study [13]. They showed that there is growing evidence that diabetes mellitus is an important associated factor for tuberculosis and might affect disease presentation and treatment responses. This finding is supported by evidence available in a study carried out by Abhimanyu, Bose M. and JHA P., which shows that an association of 25 sequence polymorphisms in six candidate cytokine genes namely IFNG, TNFB, IL4, IL1RA, IL1B and IL12 and their related haplotypes with risk of developing pulmonary tuberculosis (PTB) among north Indians[14].

Regarding to subject "General QoL-Physical Activities", this finding supportive evidence is available in a study stated that patients had problems with physical functioning that involves one's ability to carry on normal physical activities[16].

And this findings supportive evidence available in a study stated that total mean of score was (56.43%)[16]. Goes with finding of our study before applying suggested instructional program showed that patients responses upon WHOQOL-BREF items regarding physical domain, recorded moderate degree (48.7%), while after applying the suggested program, patients responses were around moderate degree (61.6%), and that explaining the effectiveness role of the suggested program combined with adherence DOTS succeed to change patients response about physical ability.

With respect to subject "General QoL-Psychosocial Domain" a study points out that TB affects all the predicted domains QoL. i.e. psychological, general health perception and social role functioning. The present study is in agreement with finding of TB affects before applying the suggested of instructional, and recorded under cutoff point degree (46.3%), while after applying suggested program, patients responses were around moderate (62.4%), and that explaining effectiveness role of the suggested program combined with adherence DOTS succeed to change patients response about psychosocial status[17].

Reference to subject "General QoL- Social Domain", a study points out that TB is a disease with social implications due to the stigma attached to it which is evident from the lower scores of cases in social domain. The present study is in agreement with finding of TB affects before applying the suggested of instructional, and recorded nearly within a cutoff point degree (64%), and after applying suggested program, patients were reported a little bit improvement of responses (68.7%), and that explaining effectiveness role of suggested program combined with adherence DOTS succeed to change patients response about social status[18].

Regarding to subject "General QoL-Environmental Domain", a study points out that environmental domain relates to the sense of safety, security, home environment, transport and financial security which was negatively affected in TB patients. The present study is in agreement with finding of TB affects before applying the suggested of instructional program, and recorded under a cutoff point degree (52.4%), and after applying suggested program, patients were reported a little bit improvement of responses (58.1%), and that explaining effectiveness role of suggested program combined with adherence DOTS succeed to change patients response about environmental status[19].

Recommendations:

1. Application the suggested instructional program in all consultation clinic for chest and respiratory disease and its coordinator tuberculosis units after training specialized staff, for patients who attending the centers monthly, to enhance quality of life, improve, adherence to treatment, and satisfaction with care

2. Invite previous patient who was suffered from the disease to attendance the lectures and to participate with his own experiment about the impact of the disease on quality of life and shared differing viewpoints, in open discussion.

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