



Assessment of Quality of Life of Diabetic Patients Type-1- in Mosul City

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Abstract

The aim of the study was to assess health problems related to Health Related of Quality of Life (HRQoL) of diabetic patients Type-1-, and to identify the relationship between some characteristics of diabetic patients Type-1- and health problems related to quality of life. This study uses the purposive approach. The study was conducted at Ibn-Sina hospital in Mosul city. The discriptive sample consists of (600) patients who visited Ibn-Sina hospital. In order to collect the study information, a questionnaire was constructed depending on previous studies and related literature review. It is composed of two parts: part one included (6) items which focus on the diabetic patients demographic characteristics such as (sex, age, marital status, occupation, educational level and residence). Part two was composed of (5) main items that covered independency, daily physical activities, psycho-social aspects, beliefs and environment. The total questions included (80) items, three scale options were used in the rating scale: (0) for never, (1) for sometimes and (2) for always. Content validity was determined by presenting the questionnaire to a panel of (12) experts. Internal consistency of the questionnaire was assessed by calculating Cronbach's Coefficient alpha. The data analysis shows that there is a significant statistical association between (HRQoL) items that are related to independency, daily physical activities, psycho-social aspects, beliefs and environment domains. The researcher concluded that (HRQoL) can be measured by instrument and that diabetic patients' independency, daily physical activities, psycho-social aspects, beliefs and environment were affected by their demographic characteristics (sex, age, marital status, occupation, educational level and residence). Depending on the findings and conclusions of the study, the researcher recommended further studies which could improve the instrument of this study from the view point of validity, reliability, and quality of questions.

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Introduction

Diabetes mellitus is globally one of the most common non - communicable diseases at present. It is the fourth or fifth leading cause of death in most developed countries. Complications from diabetes such as coronary artery and peripheral vascular disease, stroke, nephropathy, neuropathy, amputations and blindness are resulting in increasing disability, reduced life expectancy health cost for most societies.

Importance of the study:

1-Diabetes mellitus is a chronic disease and nursing care is critical in its management, so optimal care with the best quality should be provided for long time need high costs due to bad economic for patient and his family (WHO, 2010).

2-There will be continuous increase in the number of individuals with diabetic disease and increase mortality rate in the next few years in our country due to consequent bad quality of life (Donnelly, 2011).

3-Quality of life is an important concept in the diabetic patients because the physical, psychological and social well-being of the patient are affected by the disease and related treatment (ADA, 2014).

4-Recently, studies have investigated the potential use of quality of life in Ibn-Sina hospital for diabetic treatment and research, but improving health and delivery of care for diabetic patient Type-1-, how to respond to and screen physical,

psychological and social problems must be known.

5-Quality of life is influenced by how well nurse is able to help diabetic patient Type-1- and his family to respond to and be aware of disease risk and complications (WHO, 2010).

Methodology:

Administrative Arrangements:

An official permission was obtained from Ministry of Health, Department of Health in Ninavah to ensure its acceptance in order to conduct the study, and to arrange interviews with patients.

Design of the study:

Disruptive study of Health Related Quality of Life covering (600) diabetic patients Type-1- during the period of 15th January, 2018 to 15th April, 2018 was carried out at Ibn-Sina hospital in Mosul city.

The sample of the study:

Purposive sampling technique was used. This sampling technique is concerned with choosing participants based on their routine diabetes hospital visits and were able to communicate with the researcher. In this study, the patients aged between (15 – 35) years with Type-1-, who met the inclusion criteria and received care and follow-up for their diabetes at Ibn-Sina hospital in Mosul city. The study includes (600) patients with diabetes mellitus only.

The study instrument:

World Health Organization Qulaity of Life 100 and Brief, the Sickness Impact

Profile, diabetes specific quality of life and attitude 39. In addition to other review literatures, pilot interviews and the results of focus groups discussions all guided the composition and content of constructed diabetic HRQoL.

The items that make up the Diabetes Health related Quality of Life questionnaire are (80) items that are derived from the following sources:

(1)Review of literatures on diabetes and its treatment, problems and impact on adolescents and young adults life which provide the possibility for a more comprehensive and integrated understanding of Diabetic QoL issues.

(2)Adolescents and young adults who have Type-1-.

(3)Focus groups analysis and results.

Diabetic HRQoL questionnaire is the instrument that investigation constructed consists of (5) domains and (17) sub-domains. The domains and sub-domains are:

A-Independent (20) items domain which is composed of (5) categories each includes: sleep and rest, diet, medication, performance, leisure and recreation.

B-Daily physical activities (16) items domain which is composed of (2) categories each includes: movement and mobility, daily body care.

C-Psycho-social (28) items domain which is composed of (6) categories each

includes: relation with family and friends, mood emotional behavior, concentration and perception, self actualization and symptoms of anxiety and fear.

D-Beliefs (12) items domain which is composed of (3) categories each includes: spiritual, hope and future.

E-Environmental and circumstances (4) items domain.The questions were rated on (3) point-Likert response scale on which the patient rated contains behavior problems that are unique to their condition with Type-1-. The score ranges between (0-160).

Data Collection:

Data were collected through the use of the constructed questionnaire and the interview technique as a means of such collection through out the period from 15th January, 2018 to 15th April, 2018.

Limitations of the study:

1.The study is limited to diabetic patients Type-1- depending on insulin who visit Ibn-Sina hospital to take management only.

2.Patients who are involved in the study random visit to Ibn-Sina hospital during a week.

3.The duration of each interview was between (15 – 30 mins).

4.The period of the study was from 15th of January 2018 to the 15th of April 2018.

Table (4:1) Demographic Characteristics of the Study subjects (N= 600)

Variables	No.	%
(a) Sex		
Male	272	45.34
Female	328	54.66
Total	600	100%
(b) Age		
15-20 y	159	26.50
20-25 y	122	20.34
25-30 y	103	17.16
30-35 y	216	36.00
Total	600	100%
(c) Marital status		
Single	305	50.84
Married	196	32.66
Widowed	39	6.50
Divorced	60	10.00
Total	600	100%
(d) Occupation		
Pupil	141	23.50
Worker	201	33.60
Housewife	187	31.10
Officer	71	11.80
Total	600	100%
(e) Educational level		
Illiteracy	65	10.83
Primary school	240	40.00
Secondary school	77	12.84
Intermediate school	87	14.50
Institutes	99	16.50
University or above	32	5.33
Total	600	100%
(f) Residence		
Urban	434	72.34
Rural	166	27.66
Total	600	100%

Table (4.1) demonstrates demographic characteristics of the study sample. The table shows that high percentage is female and consisted (54.66%). The majority of diabetic patients Type-1- aged between (30-35) years, which represented (36.00%). With regard to marital status, the table shows that (50.84%) of them were single while (6.50%) of them were widows. In the study of occupations of diabetic patients, the workers formed the highest percentage (33.60%), while the lowest percentage of the officers

was(11.80%). The educational level of diabetic patients, the highest percentage was (40.00%) who were graduated from primary schools, while only (5.33%) of them were university graduates or above as the lowest percentage. With relation to their residence, the majority of the subjects (72.34%) were living in urban areas but the rural areas were (27.66%) only. The educational level of diabetic patients, the highest percentage was (40.00%) who were graduated from primary schools, while only (5.33%) of them were

university graduates or above as the lowest percentage. With relation to their residence, the majority of the subjects (72.34%) were

living in urban areas but the rural areas were (27.66%) only.

Table (4:2) diabetic patient's responses on independency domains within 3-level scale by total frequencies, percentages and Chi-Square.

Sleep and Rest	Never		Sometimes		Always		\bar{X}
	F	%	F	%	F	%	
Do you feel difficulty in sleeping?	228	38	72	12	300	50	1.12
Are you satisfied with your sleep?	252	42	72	12	276	46	1.04
Do you feel a change in your sleep with disease?	216	36	132	22	252	42	1.06
Do you need any drugs for sleeping?	228	38	60	10	312	52	1.14
Obs.X ² = 70.967	D.F = 6, P Value = 0.000		Crit. X² = 12.59				
Diet	F	%	F	%	F	%	\bar{X}
Does your eating food decrease with disease?	180	30	144	24	276	46	1.16
Does the kind of food change with disease?	180	30	204	34	216	36	1.06
Keeps you more health diets?	156	26	216	36	228	38	1.12
Take diet according to doctor order?	180	30	132	22	288	48	1.18
Obs.X ² = 100.056	D.F = 6, P Value = 0.000		Crit. X² = 12.59				
Performance	F	%	F	%	F	%	\bar{X}
Do you feel difficulty in fulfilling your home tasks?	144	24	132	22	324	54	1.3
Do you feel that the disease prevents daily performance?	180	30	132	22	288	48	1.18
Do you have enough energy to practice your daily life?	120	20	216	36	264	44	1.24
Do you have the ability as a husband	204	34	144	24	252	42	1.08
Obs.X ² = 168.991	D.F = 6, P Value = 0.000		Crit. X² = 12.59				
Medication	F	%	F	%	F	%	\bar{X}
Are you committing in taking drugs regularly?	156	26	48	8	396	66	1.4
Do you feel taking drugs is useful for your health?	120	20	252	42	228	38	1.18
Do you feel drugs taking affects your life?	192	32	144	24	264	44	1.12
Do you have enough information about drugs taken?	240	40	96	16	264	44	1.04
Obs.X ² = 165.764	D.F = 6, P Value = 0.000		Crit. X² = 12.59				
Leisure and Recreation	F	%	F	%	F	%	\bar{X}
Do you have time for entertainment activities?	60	10	312	52	228	38	1.28
Do you feel that your disease is the reason for you unhappiness?	252	42	84	14	264	44	1.02
Do you like watching T.V?	120	20	144	24	336	56	1.36
Do you go to entertainment places?	192	32	144	24	264	44	1.12

Obs. $X^2 = 165.764$

D.F = 6 , P Value =0.000

Crit . $X^2 = 12.59$

The table shows significant differences at (P Value = 0.05) of independency domains.

Table (4:3) diabetic patient's responses on daily physical activities domains with in 3- level scale by total frequencies, percentages and Chi-Square.

Movement and Mobility	Never		Sometimes		Always		\bar{X}
	F	%	F	%	F	%	
Is there difficulty as you put on your clothes?	36	6	324	54	240	40	1.34
Is there difficulty as you walk and move in long distances?	108	18	252	42	240	40	1.22
Do you have the ability to practice athletic activities?	204	34	192	32	204	34	1.0
Are you able to wander easily?	240	40	96	16	264	44	1.04
Do you have a difficulty when you have a bath?	156	26	156	26	288	48	1.22
Do you have slow motion?	132	22	180	30	288	48	1.26
Going up do you need help during stairs?	168	28	132	22	300	50	1.22
Is there difficulty as you move at home?	72	12	276	46	252	42	1.3
Obs. $X^2 = 287.154$		D.F = 12 , P Value = 0.000		Crit. $X^2 = 21.03$			

Daily body care	F	%	F	%	F	%	\bar{X}
	Do you feel satisfied by health services provided?	215	35.8	79	13.2	306	51
Are you satisfied about your health?	240	40	80	13.3	280	46.7	1.06
Do you always care well for your health?	165	27.5	195	32.5	240	40	1.12
Your family caring with your health.	175	29.2	217	36.1	208	34.7	1.05
Do you feel any advantage when you visit health centers?	185	30.8	132	22	283	47.2	1.16
Do you follow the health guidance?	200	33.3	192	32	208	34.7	1.01
Do you like bathing daily?	240	40	96	16	264	44	1.04
Do you help your family when visit diabetic center?	156	26	156	26	288	48	1.22
Obs. $X^2 = 287.154$		D.F = 12 , P Value = 0.000		Crit. $X^2 = 21.03$			

The table indicates significant differences at (P Value = 0.05) of daily physical activities domains.

Table (4:4) diabetic patient's responses on psycho-social aspects domains within 3-level scale by total frequencies, percentages and Chi-Square.

Relations with own family and friends	Never		Sometimes		Always		\bar{X}
	F	%	F	%	F	%	
Are you satisfied with support and aid of parents and friends?	30	5	300	50	270	45	1.4
Does your family believe that you are sick or disabled?	220	36.7	95	15.8	285	47.5	1.10
Do you have the ability to visit your friends	190	31.7	180	30	230	38.3	1.06

and relatives?							
Do your friends understand your health condition?	216	36	130	21.7	254	42.3	1.06
Do you effected disease about relation with your family?	165	27.5	232	38.7	203	33.8	1.06
Is your relation with your wife and family good?	201	33.5	173	28.8	226	37.7	1.04
Do you participate in making decisions inside home?	79	13.2	263	43.8	258	43	1.29
Do you need help from your family?	243	40.5	76	12.7	281	46.8	1.06
Obs.X ² = 274.273	D.F = 12 , P Value = 0.000		Crit. X ² = 21.03				

Mood	F	%	F	%	F	%	\bar{X}
Do you feel annoyed when you visit health centers?	208	34.7	70	11.7	322	53	1.19
Do you feel happy in your life?	252	42	72	12	276	46	1.04
Do you feel annoyed of noise?	242	40.3	82	13.7	276	46	1.05
Do you prefer not to mix with others?	228	38	60	10	312	52	1.14
Obs.X ² = 239.998	D.F = 12 , P Value = 0.000		Crit. X ² = 21.03				

Emotional behavior	F	%	F	%	F	%	\bar{X}
Do you feel that affected disease is behind the kindness of others?	216	36	148	24.7	236	39	1.03
Does your passion increase with your affected disease?	180	30	200	33.3	220	36	1.06
Do you feel loosing passion as affected disease?	156	26	216	36	228	38	1.12
Increase your family kindness after disease.	180	30	132	22	288	48	1.18
Obs.X ² = 3.999	D.F = 6 , P Value = 0.000		Crit. X ² = 12.59				

Concentration and perception	F	%	F	%	F	%	\bar{X}
Do you have the ability to concentrate?	230	38.3	55	9.2	315	52	1.14
Do you feel that your memory is affected at now?	220	36.7	95	15.8	285	47	1.10
Do you feel that you can remember things happened in the past?	190	31.7	170	28.3	240	40	1.08
Do you feel that level of education decrease because of disease?	206	34.3	130	21.7	264	44	1.09
Obs.X ² = 49.717	D.F = 6 , P Value = 0.000		Crit. X ² = 12.59				

Self actualization	F	%	F	%	F	%	\bar{X}
Are you satisfied with yourself?	222	37	155	25.8	223	37	1.0
Are you satisfied with your role in life?	200	33.3	170	28.3	230	38	1.05
Are you satisfied with what you have achieved in your life?	79	13.2	263	43.8	258	43	1.29
Achieved yourself?	243	40.5	72	12	285	47	1.07
Obs.X ² = 79.532	D.F = 6 , P Value = 0.000		Crit. X ² = 12.59				

Symptoms of anxiety and fear	F	%	F	%	F	%	\bar{X}
Do you anxiety and fearful?	228	38	72	12	300	50	1.12
Do you have a feeling of sadness and depression?	195	32.5	165	27.5	240	40	1.6
Do you feel frightened?	190	31.7	180	30	230	38	1.06
Do fear and anxiety domiant your life?	200	33.3	192	32	208	34	1.01

Obs.X² = 83.960 D.F = 6 , P Value = 0.000 **Crit. X² =12.59**

The table shows significant differences at (P Value = 0.05) of psycho-social aspects domains.

Table (4:5) diabetic patient's responses on beliefs domains within 3-level scale by total frequencies, percentages and Chi-Square.

Spiritual	Never		Sometimes		Always		\bar{X}
	F	%	F	%	F	%	
Are you able to go to worship position?	220	36.7	95	15.8	285	47.5	1.10
Does your disease made you prayer?	190	31.7	170	28.3	240	40	1.08
Do religious beliefs affect your health?	30	5	300	50	270	45	1.4
Do you try to employ spiritual beliefs for therapy?	216	36	148	24.7	236	39.3	1.03
Obs.X ² = 82.057		D.F = 6 , P Value = 0.000		Crit. X² = 12.59			
Hope	F	%	F	%	F	%	\bar{X}
Do you like life in this time?	235	39.2	95	15.8	270	45	1.05
Do you feel hope in your life?	132	22	252	42	216	36	1.14
Do you think of death?	60	10	312	52	228	38	1.28
Do you have a hope of recovery?	243	40.5	72	12	285	47.5	1.07
Obs.X ² = 141.181		D.F = 6, P Value = 0.000		Crit. X² = 12.59			
Future	F	%	F	%	F	%	\bar{X}
Do your feel that you lost your role in the future?	165	27.5	195	32.5	240	40	1.12
Do your feel your health will improve later?	210	35	95	15.8	295	49.2	1.14
Are your afraid of the future?	216	36	130	21.7	254	42.3	1.06
Do you feel that your future will be better than the past?	228	38	72	12	300	50	1.12
Obs.X ² = 60.771		D.F = 6 , P Value = 0.000		Crit. X² = 12.59			

The table shows significant differences at (P Value = 0.05) of beliefs domains.

Table (4:6) diabetic patient's responses on environment domains within 3-level scale by total frequencies, percentages and Chi-Square.

Environment and circumstance	Never		Sometimes		Always		\bar{X}
	F	%	F	%	F	%	
Do you feel that your environment is healthy?	202	33.7	165	27.5	233	38.8	1.05
Are you satisfied with your residency conditions?	202	33.7	160	26.7	238	39.7	1.06
Do you try to make your own healthy environment?	243	40.5	79	13.2	278	46.3	1.05
Do you feel that individuals around you try to maintain your healthy environment?	240	40	75	12.5	285	47.5	1.07
Obs.X ² = 90.948		D.F = 6 , P Value = 0.000		Crit. X² = 12.59			

The table shows significant differences at (P Value = 0.05) of environment domains.

Part I: Discussion of HRQoL of diabetic patients Type-1-:

1. Independency domains:

The data analysis shows that there is a significant statistical association of health

related quality of life items that are related to independency domains. The finding may be explained by the fact that health

care services provided by the health care system are not efficient and do not take in to consideration the needs of these aggregates, which are reflected in the health problem that occurred to them. With relation to the independency domains, the diabetic patients suffered from sleep disorder, diet imbalance, difficulty in performance of their duties, medication compliance as well as recreation. Also, it was noticeable that the diabetic patients didn't gain the appropriate care that leads to the improvement of their quality of life.

Letassy (2013) mentioned that sleep disorder is a problem with some patients which reflects the underlying reaction to their physical problem in the form of anxiety and depressive illness. Letassy stated that some people who have had diabetic patients have difficulty in sleeping when they return home from center. This is due to change in environment from center and may be part of getting used to their night time routine and bed again. It may also be due to worry that diabetes mellitus will increase during the night.

Institute of Medicine Food and Nutrition Board (2010), mentioned that diet and exercises are considered important components of the treatment strategy for adults with diabetes. Appropriate use of diet and exercise can improve insulin sensitivity and glycemic control and decrease the need for oral medications or insulin. Although there is some controversy over the optimal diet for

adults with diabetes (high fiber, glycemic index approaches, low versus moderate fat), there is a consensus to increase consumption of fruits and vegetables and decrease daily consumption of saturated fats.

Hawthorne and Tomlinson (2012) mentioned that the diabetic on diet usually needs to take no special precautions but the diabetic on insulin may need to take extra carbohydrate before or during exercise. The amount varies greatly and each diabetic should learn for himself what effect, if any, extra exertion has on his carbohydrate needs. They may be increased by 50gs or even more. It is generally better to raise carbohydrate intake than lower insulin dosage. There are some special considerations. Mountaineering and skiing may be dangerous. No diabetic on insulin should ever swim alone. In any case of doubt it is best to take extra carbohydrate before the exertion. It can give useful advice on personal, social, professional and other problems and diabetics are strongly recommended to belong. It runs holiday camps and cruises for children, publishes a handbook, guides to the carbohydrate values of foods and a journal.

2. Daily physical activities domains:

The study finding revealed that there is a significant statistical association of health related quality of life items which concerned with daily physical activities assessment. The main event that is noticed in the physical daily activities is that the

maturity of the diabetic patients Type-1- had difficulty in working.

Raile and others' studies have investigated the role of exercise on leptin. They observed a significant decrease in leptin among men after a 20 week endurance training program; however, the result was only marginally significant after adjustment for the reduction in fat mass. A week aerobic training program without changes in fat mass did not result in a change in leptin level in men, but the number of subjects was small. Conversely, others have found that lower leptin levels associated with activity, independent of changes in fat mass. He observed a lower level of leptin among rugby players when compared with sedentary individuals with similar body fat content and observed a decrease in leptin among obese subjects with increasing hours of exercise independent of percent age of body fat. In our analysis, the association of physical activity with leptin was only somewhat attenuated after adjustment to BMI. For decades, exercise has been considered a cornerstone of diabetes management, along with diet and medication. However, high-quality evidence on the importance of exercise and fitness in diabetes was lacking until recent years. The last American Diabetes Association (ADA) technical review of exercise and diabetes (formerly known as non-insulin dependent diabetes) was published in 2010 (Raile et. al., 2010).

Schneider and Guleria (2010) mentioned

that physical activity plays an important role in the treatment protocol for DM. Among patients with T1DM, exercise has been found to improve metabolic control and to reduce exogenous insulin requirements. It may also prevent or delay late DM-related complications and improve longevity. Several factors influence the metabolic and hormonal responses to exercise among diabetic patients, such as the duration and intensity of exercise, the level of metabolic control, the type and dose of insulin delivered before exercise, the site of injection, and the timing of the previous insulin injection and food intake relative to the exercise. Accordingly, blood glucose levels can decline (the most common response), increase, or remain unchanged.

3. Psycho-social aspects domains:

The study finding revealed that there is a significant statistical association of health related quality of life items which measure with psycho-social aspects assessment.

Grey and others (2012) explained a number of studies, including meta-analyses, have shown the association between diabetes and depression. This is an important public health issue because depressive disorders generally have been associated with the outcomes of chronic diseases like diabetes and have contributed to the high economic burden of health care costs. Many of the studies have relied on clinical or other convenience samples in describing depression and diabetes as co-morbid conditions or in exploring the

association of depression with clinical markers such as glycemic control, blood pressure, cholesterol and triglyceride levels. Indeed, in a meta-analysis, it is reported that depression was more prevalent in clinical samples than in the community. However, there have been recent large population-based studies that have confirmed this association, concluded that the effects of depression in diabetes were not trivial. Several studies have assessed the impact of depression in diabetes in terms of the individual's functional ability or quality of life. He examined preference-based time tradeoff utility values associated with diabetes and showed that those with diabetes were willing to trade a significant proportion of their remaining life in return for a diabetes-free health state. One of the factors affecting quality of life in the diabetic group included depression. Understanding which dimensions of quality of life are associated with the comorbidities of depression and diabetes is important for day-to-day clinical management and also for public health policy initiatives aimed at improved health outcomes for the diabetic population. This is even more important given that diabetes is increasing in Australia and in many other industrialized countries.

4. Beliefs domains:

The study finding revealed that there is a significant statistical association of health related quality of life item which concern with beliefs assessment.

Kluckhohn and Strodtbeck (2011) explained an important area for consideration in planning nursing assessments and interventions, the function of religious and magical beliefs in human attempts to cope with the adversities of illness. Of particular interest would be the degree of fatalism expressed by cultural value orientations about humanity's ability to control diabetes.

Taylor and others (2015) explained numerous interventions promote spiritual well-being, including referral to a chaplain or clergy member; facilitating religious rituals, prayer, meditation and relaxation; providing spiritual music or art work; active listening; dialogue about spiritual matters; recommending spiritual reading material; and being therapeutically present that is, trusting, loving, vulnerable, empathic and humble. Because of the significant impact of meaning on quality of life, our discussion of spiritual care interventions will be limited to those related to the promotion of meaning and purpose.

5. Environment domains:

The study finding revealed that there is a significant statistical association of health related quality of life items which are concerned with environment assessment.

Glasgow and others (2017) mentioned that the mental state and environment status of the patient will affect the management of diabetes. Poor control may be due to a variety of factors: a basic failure; a financial struggle to meet the high prices

of a protein-orientated diet, disharmony home or, in some countries, an inability to pay for essential drugs. Underprivileged families in the lower socio-economic strata are often less able to cope with the stress of life and it might be expected that they would have greater difficulty in controlling diabetes.

Explained that stress is invariably associated with modernized life style. Tremendously increased traffic in large cities, still increasing speed, exaggerated hastiness, frequent professional and family conflicts, injuries and the high frequency of vascular and other diseases states represent various types of stress. Stress of any kind means a load to which the human body reacts either by physiological or sometimes pathological responses.

Conclusions:

The findings are based on the results of data analysis. According to the objectives of this study, the conclusions are:

- (1)The results of this study are interesting because that health problems related to quality of life of diabetic patients Type-1-, they are according to: (independency, daily physical activities, psycho-social aspects, beliefs and environment) domains.
- (2)Health related quality of life of diabetic patients Type-1- can be measured by instruments.
- (3)The demographic characteristic of diabetic patients Type-1-: sex, age, marital status, occupation, educational level and residence directly affect: independency,

daily physical activities, psycho-social aspects, beliefs and environment.

(4)This study is important because of need special staff of nursing that deal with diabetic patients bio-psychosocial well-being.

Recommendations:

Depending on the findings and conclusions of the study, the researcher recommended the following:

- (1)Increase the number of centers of diabetic patients especially to improve quality of life in Mosul city with medical specialization and nursing teams to deal with physical, psychological and social problems of diabetic patients Type-1-.
- (2)Affirmation to continue the same researches and studies related to quality of life in diabetic patients Type-1-, and avoidance of restriction of care about the physical problems only.
- (3)Follow up diabetic patients Type-1- Ibn-Sina hospital by calling and visiting them in their houses for psychological support and to prevent physical problems.

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