Assessment of Quality of life for Patients with Myocardial Infarction

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الخلاصـة:

الهـدف: التعرّف على نوعية حياة مرضى احتشاء العضلة القلبية وإيجاد العلاقة بين نوعية الحياة والصفات الديموغرافية.

المنهجيـة: أجريت هذه الدراسة وصفيه باستعمال أسلوب التقييم للمُدّة من آذار ٢٠٠٧ ولغاية تشرين الثاني ٢٠٠٧ لتقييم نوعية الحياة لمرضى احتشاء العضلة القلبية. اختيرت عيّنة غرضيّة "غير احتمالية" مكوّنة من (٧٥) مريض من المصابين باحتشاء العضلة القلبية في مستشفى بعقوبه العام خلال مراجعتهم للمستشفى.

طوّرت استمارة الاستبانة لغرض الدراسة بعد تبنّيها من مقياس نوعية الحياة الخاص بمنظمة الصحة العالمية (١٩٩٨م) وشملت استمارة الاستبانة جزئين، الأول يحتوي الخصائص الديموغرافية للمرضى المصابين باحتشاء العضلة القلبية، الاجتماعية والحالة الطبيّة للمريض ومعلومات المرضى حول احتشاء العضلة القلبية والجزء الثاني يحتوي ستة محاور رئيسة لنوعية حياة مرضى احتشاء العضلة القلبية.

حدّدت مصداقية الاستبانة من خلال عرضها على مجموعة خبراء من ذوي الاختصاص، كما حدّد ثباتها من خلال الدراسة التجريبية. جُمعَت البيانات من خلال استخدام الاستبانة. حُللت البيانات باستعمال أسلوب تحليل البيانات الوصفي (التكرارات والنسب المئوية) وأسلوب تحليل البيانات الاستنتاجي.

النتائـج: أظهر تحليل النتائج أنّ (٥٣,٣%) من العيّنة من الرجال و(٤١,٧%) في عمر يتراوح بين (٦١–٧٠) سنة، (٦٨%) منهم متزوجون وأكثر من ثلثي العينة غير قادرين على القراءة والكتابة (٤٤%) من العينة هم لا يعملون.

بيّنت نتائج الدراسة إنّ الصفات الديموغرافية للمرضى المصابين باحتشاء العضلة القلبية مثل الجنس ومستوى التعليم وطبيعة العمل في السابق كانت لها علاقة معنوية عالية مع نوعية حياتهم. أظهرت الدراسة أيضاً إنّ تقييم نوعية حياة مرضى احتشاء العضلة القلبية له درجات مختلفة من التأثيرات ذات الدلالة المعنوية من خلال الكفاية النسبية من محور المعتقدات الدينية (RS=83.8)، محور الاستقلالية (RS=76.9)، النفسية (RS=76.7)، الجسمية (RS=74.6)، العلاقات الاجتماعية (RS=69.9) والتفاعلات البيئية (RS=62).

التوصيات: أوصت الدراسة بضرورة وجود برنامج تعليمي لمرضى احتشاء العضلة القلبية لمساعدتهم على التمتع بالحياة بأحسن حالة صحية ممكنة ونصحهم وتثقيفهم حول كيفية التعامل مع المشكلات الناتجة عن احتشاء العضلة القلبية مع نوعية حياة جيدة.

Abstract

Objectives: To identify quality of life (QoL) in Myocardial Infarction (MI) patients, and to find out the relationship between QoL in MI patients and demographic characteristics.

Methodology: A descriptive correlation study which utilized an assessment approach. The study was carried out from March 2007 through November 2007 in order to assess the quality of life for patients with myocardial infarction. A purposive "non-probability" sample of (75) patients with myocardial infarction who were attending to Baquba General Hospital through their visits to that hospital. A questionnaire was adapted and developed from the World Health Organization Quality of Life Scale (1998). The questionnaire was designed and consisted of (2) parts, the first part includes demographic characteristics of Myocardial Infarction patients, clinical characteristics of these patients and medical sheet information. The second one consists of six domains of quality of life. Reliability was determined by using test and retest technique through a Pilot study. Data were analyzed through descriptive data analysis approach (Frequency and percentage) and the inferential data analysis approach (Pearson correlation coefficient and chi-square).

Results: The results of the study indicated that (53.3%) of the sample was male and (41.7%), age between (61-70) years, (68.0%) was married and more than two third of sample were unable to read and write, (44%) of the sample was housewife (do not work). The findings of the study present that the demographic characteristics of MI patients such as gender, level of education had a significant relationship with their quality of life. The socioeconomic characteristics of patients such as marital status had no significant relationship with the patients' quality of life. The finding also shows disease had moderate, low and no effect on quality of life through the relative sufficiency from the spiritual domain (RS=83.8), the independence (RS=76.9), psychological domain (RS=76.7), physical domain (RS=74.6), social domain (RS=69.9), and environment domain (RS=62.3).

Recommendations: The study recommended that an educational program for MI patients to help them have a better QoL and advice them how to cope with their problems for a good QoL.

Key words: Quality of Life, Myocardial Infarction

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Introduction:

A descriptive design was carried out to assess QoL for patients with MI who are treated in Baquba General Hospital. The study was initiated from March 11th 2007 through October 30th 2007.

Prior to data collection, a written official permission was obtained. The study was carried out at Baquba General Hospital in Diala Governorate. It was establish in 1973. Baquba General Hospital which is a referral hospital for treatment and outpatient clinic. Non –probability "purposive" sample of (75) patients who were admitted to the hospital and diagnosed with MI attended the Baquba General Hospital for inpatient or out patient. The sample was selected according to the following criteria: The patients who were definitely diagnosed as having MI, and uncomplicated cases and interval period after the attack from (three months) and above. A questionnaire was adopted and developed from the World Health Organization Quality of Life Scale (1998) to measure the variables underlying the present study. The developed questionnaire consists of (2) parts:

Part I Demographic data form , Clinical data form , Environmental Characteristics form and Patient information form.

Part 2. Quality of life questionnaire:-

For the purpose of the study, coronary artery diseases related quality of life has been reviewed for development and construction of MI quality of life.

The present questionnaire is adopted of the Word Health Organization QoL

(WHO QoL 1998). It is composed of (6) domains. These domains are presented as follows:

2-1 .The physical domain

2-2. the psychological domains

2-3. the level of independence domain

2-4.The social relationship domain

2-5. the spiritual / religion /personal beliefs domain

2-6.The Environment domain

The myocardial infarction patient's QoL questionnaire item were rated and scored in the following:- Three point types likert scale is used as (agree, uncertain, disagree) for rating the items [10]. It is scored as 3 for agree ,2 for uncertain and 1 for disagree. The higher score of the questionnaire, the greater the effect of the chronic disease and therapy on QoL. It was calculated through the following formula.

$$R.S = \frac{Cut\ of\ point}{Number\ of\ scale} \times 100$$

$(2/3) \times 100 = 66.67$

So the interval had ranged between (66% – 100) that represented the rate of quality of life effect these scores are calculated according to this formula:

$$\frac{100 - 66.67}{3} = 11.11,\ then\ this\ score\ added\ to:$$

66.67+11.11=77.78 is moderate,

77.78+11.11= 88.89   is high.   In addition, less than 66.67 is no effect.

The Content validity was determined for the instrument measure through the use of panel of experts. As result of conducting a Pilot study, reliability was   determined with the test-retest method, and Pearson rank formula.

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The correlation coefficient for QoL domains for adult patients were (r=0.79) for physical domain, (r=0.97) for psychological domain, (r=0.73) for level of independence domain, (r=0.99) for social relationship domain, (r=0.99) for spiritual domain, (r=0.98) for the environmental domain, and (r=0.98) for total QoL domains for patients with myocardial infarction.

Table 1. Test–retest reliability of QoL scale for myocardial Infarction

Source	Mean	SD	r	P.
Test	194.3	17.22	0.98	0.05
Retest	209.8	10.67		

P= level of Probability, r= correlation, SD=Standard deviation

Data were analyzed through the application of descriptive statistic (frequency, percentage, mean of score, relative sufficiency) and inferential statistical (Pearson correlation coefficient, Chi-square, and Quartile)

$Q1=1/4n$ $Q2=2/4n$ $Q3=3/4n$

Table 2. Level of cut-off point and level of patients' aspect

Patients aspect	Number of patients	Minimum of patient aspect	Maximum of patient aspect	Level of patient aspect	Cut-off point
				Low	129-190
	75	129	238	Moderat	191-212
				High	213-238

Results

Table 3-a. Distribution of the study sample according to demographic characteristics

	Characteristics of sample	Frequency	Percent
1	**Age**		
	41-50	7	9.3
	51-60	26	34.7
	61-70	31	41.7
	More than 70	11	14.7
	Total	75	100
2	**Sex**		
	Male	40	53.3
	Female	35	46.7
	Total	75	100
3	**Marital status**		
	Married	51	68
	Unmarried	24	32
	Total	75	100
4	**Level of education**		
	Not to read and write	39	52
	Read and write	12	16
	Primary school graduate	12	16
	Secondary school graduate	8	10.7
	University graduate	4	5.3
	Total	75	100
5	**Occupational status**		
	Government employee	7	9.3
	Self –employee	10	13.3
	Retired	25	33.3
	House wife	33	44
	Total	75	100
6	**Nature of work**		
	Prior to disease		
	With exertion	56	74.7
	Without exertion present	19	25.3
	Total	75	100
	After disease		
	With exertion	35	46.7
	Without exertion	40	53.3

Table (3-a) shows that the highest percentage of the sample (53.3%) was male at age groups (61-70) years. Regarding occupational status, the highest percentage of the sample (44 %) was housewife and (33.3 %) of them was retired, while only (9.3 %) of the sample was governmental employees. According to nature of work prior and after disease, the majority (74.7%) of sample work prior to disease was with exertion, while (46.7%) of their work after disease was with exertion.

Table 3-b. Distribution of the study sample according to clinical characteristics

	Characteristics of sample	Frequency	Percent
	Duration of incidence		
	Less than two year	17	22.7
	2 – 5 year	42	56
1	More than – 5 year	16	21.3
	Total	75	100
	M= 3.7351 SD= 3.28681		
	Rehospitalization		
	1-2 times	50	66.7
2	More than two time	25	33.3
	M= 2.4522 SD= 1.48844		

M= mean, SD= standard deviation

This table shows that the highest percentage of the sample (56%) have duration of MI incidence from (2–5) years before and the mean of duration was 3.7351± 3.28. Regarding rehospitalization, (66.7%) of MI patients had (1-2) times of rehospitalization.

Table 3-c. Distribution of the study sample according to Environmental characteristics

	Characteristics of sample	Frequency	Percent
	Residency		
1	1. Urban	38	50.7
	2.Rural	37	49.3
	Family size		
2	1- 5	14	18.7
	6- 10	37	49.3
	11 and above	24	32
	Family income		
3	Sufficient	9	12
	Sufficient to some extent	18	24
	Not sufficient	48	64

This table revealed that half of the sample lives in urban areas (center of Diala) and the other half resides in rural ones. Concerning family size, the highest percentage (49.3%) of family members lives in home (6-10) persons. While the lowest percentage (18.7%) of the sample was (1–5) persons. It was shown also that the monthly income for the majority of the sample (64%) is not satisfactory compared to (12%) of the sample whose income is satisfactory.

Table 4. Level of quality of life effect among myocardial infarction patient

Domains	Level of effect Sub-domains	M.S	R.S	Grade
Physical domain	Pain and discomfort	2.6	87.9	Moderate
	Sleep and rest.	2.11	70.3	Low
	Energy and fatigue	2.06	68.9	Low
	Total	2.24	74.6	Low
Psychological	Body image and appearance.	2.48	83.1	Moderate
	Thinking/ learning/ memory.	2.59	86.7	Moderate
	Self-esteem.	2.3	76.7	Low
	Positive feeling.	2.1	70	Low
	Negative feeling.	1.97	65.7	No effect
	Total	2.28	76.7	Low
Level of independence	Mobility	2.06	68.7	Low
	Activity of daily living.	2.34	78	Moderate
	Dependence on medication	2.19	73	Low
	Work capacity	2.64	88.25	Moderate
	Total	2.3	76.9	Low
Social relationship	Personal relationships.	1.65	55	No effect
	Social Support.	1.95	65	No effect
	Sexual activity.	2.69	89.6	High
	Total	2.09	69.9	Low
Spiritual, religion and personal believe	Positive believes.	2.89	96.3	High
	Negative believes.	2.14	71.3	Low
	Total	2.5	83.8	Moderate
Level of environment	Personal safety and security.	2.13	71	Low
	Home Environment.	1.37	45.8	No effect
	Health and social care	1.45	48.3	No effect
	Financial resources.	2.5	84.2	Moderate
	Total	1.86	62.3	No effect

No effect of disease =QoL less than 66.67,   Low effect of disease = QoL 66.67–77.78,
moderate effect of disease = QoL ,77.78-88.89, High effect of disease = QoL 89-100

Table 4 shows that the highest relative sufficiency (87.9) was for the sub-domain feels pain and discomfort and low relative sufficiency (68.9) was for energy and fatigue for physical domain.

Regarding to psychological domains, Table (4) presents the highest relative sufficiency value at moderate level recorded to body image and appearance, thinking/learning and memory. Sub-domain and no effect of disease with negative feeling.

Concerning to Level of independence domain, effect the highest relative sufficiency (88.25) was for the sub-domain work capacity while the lowest relative sufficiency (68.7) was

the sub-domain mobility. Table (4) also shows that the highest relative sufficiency (89.6) was for the sub-domain sexual activity and relative sufficiency (65), (55) no effect of disease on quality of life was for social support and personal relationships respectively for social relationship domains effect

Regarding to Spiritual domain, religion and personal believes domains effect among myocardial infarction patient the table shows that the spiritual sub-domain recorded high effect of relative sufficiency for positive believes.

Concerning to Level of environment domains effect the table presents that the sub-domain financial resource had the moderate level of relative sufficiency while home environment and health and social care had no effect level of relative sufficiency.
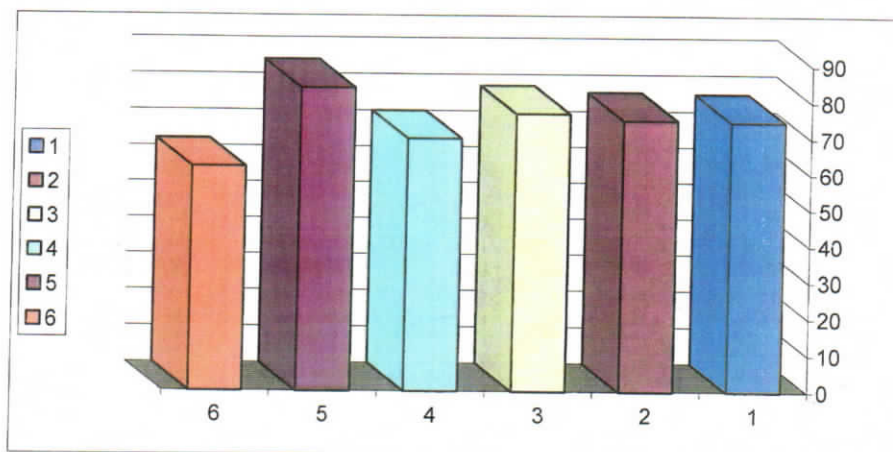

Figure 1. Distribution of the Quality of life domains
This figure shows that the domain (1- physical domain, 2-psychological domains, 3-level of independence domain, 4- social relationship domain, 5- spiritual domain, and 6-environment domain) according to the relative sufficiency.

Most of domains with low effect of disease on QoL, these are (physical, psychological, level of independence and social relationship, while the spiritual domain with the moderate effect and the environment domain with no effect of disease on QoL according to relative sufficiency, (Figure 1).

Table 5. Association between quality of life effect and the demographic characteristics

QoL levels / Variable	Low		Moderate		High		Total	χ^2	df	S.P.V (0.05)
	F	%	F	%	F	%				
Sex										
Male	14	18.7	18	24	8	10.7	40			
Female	4	5.3	18	24	13	17.3	35	7.15	2	S
Total	18		36		21		75			
Age										
41-60	9	12	15	20	9	12	33			
More than 60	9	12	21	28	12	16	42	0.35	2	N.S
Total	18		36		21		75			

Table 5. (Continued)

Level of education										
Notable to read and write	6	8	21	28	12	16	39			
Able to read and write	0	0	8	10.7	4	5.4	12	25.5	8	S
Primary	3	4	6	8	3	4	12			
Secondary	6	8	1	1.4	1	1.4	8			
Universal	3	4	0	0	1	1.4	4			
Total	18		36		21		75			
Occupational status										
Government employee	4	5.4	2	2.7	1	1.3	7			
Self-employee	2	2.7	6	8	2	2.7	10	11.64	6	N.S
Retired	9	12	11	14.7	5	6.7	25			
Housewife	3	4	17	22.7	13	17.4	33			
Total	18		36		21		75			

χ^2 crit (df=2) = 5.991, X^2crit (df=6) =12.59, X^2 crit. (df=8) =15.507,(S) Significant

This table presented that there is a statistical significant association between Quality of life and sex, level of educational, and no significant relationship between quality of life and age, occupational status at ≤ (p 0.05) .

Part 1-a Discussion of the demographic characteristics of patient with MI

The sample of the study consists of (75) patients suffering from MI, who were visiting the inpatient and the outpatient clinic of General Baquba hospital. The majority of the sample (41.7%) were at age (61-70) years. The result of the present study is agreement with Alexander, [3] who reported that the patients with MI are above age (70) years have a poorer prognosis than those who are below this age. Concerning gender this study presented the male with high percentage (53.3%) of sample .Concerning occupational status this study shows that the highest percentage (44.0%) of study sample were housewife and regarding the nature of work prior to disease the majority (74.7%) of sample were their work with exertion and after disease the majority (53.3%) of patient was their work without exertion (Table 3a). This result is agreed with another study which showed that men are much greater risk of CVD than women is until old age. Women under 35 have a low risk of CVD and reported that (75) percent of all heart attacks occur to people over age 65 years old. [9]

Part 1-b Discussion of the clinical characteristics of the sample

The distribution of clinical characters of MI patient had revealed the higher percentage (56%) of duration of incidence of heart attack were with the range (2 -5) years. Regarding rehospitalizaton, the result indicated that (66%) of the study sample was within (1 -2) time rehospitalizaton. The Finding of the present study showed that the majority of the study sample (78.7%) reported that the patients do not have history of coronary artery disease (Table 3b). This finding was disagreed with another study which showed that the family that has history of heart disease appears to increase risks significantly [9].

Part 1-c Discussion of environment characteristic of the sample

The distribution of environment factors had showed the half of the study sample were from urban and the half from rural with the high percentage (49.3%) of family size (6-10) person. The result of the present study showed that more than half of the patients (64%) reported the monthly income was not sufficient (Table 3c).

Part 1-d: Discussion about medical information of the sample

According to the present result, the findings showed that most patients have not information about MI disease, causative agent of MI disease and drugs and side effect of drug. Furthermore, it was showed that (97.3) of the patients have information about diet limitation according to their cases, so about the source of information (60%) of sample take these information from physicians when they visited them at the clinics and (34.6%) from the nurses through admission to hospital or through contact in the outpatient clinic (Table 3d). The promote compliance by thoroughly explaining the dose, frequency, route, and purpose of each prescribed drug. Describe all possible adverse effects, advising the patient to watch for, and report signs of toxicity [11].

Part II: Assessment of QoL domains for the patients with myocardial infarction (Table 4)

These domains consist of Physical, Psychological, level of independence, Social relationship, Spiritual and Environmental domains.

II-1   Physical domain:

The results have shown that pain and discomfort experienced by MI patient in two levels of effect, high and moderate effect of disease on QoL according to the relative sufficiency, three out of four items rated high (RS), when lifting heavy object (RS=90.2), patients feeling discomfort when they feel the pain (RS=90.2) and when doing vigorous activity (RS=89.7). Feeling of pain and discomfort can also makes the patient tired and fatigue. Moreover, long periods of restless and sleep disturbance will decrease their energies and activities and impaired mobility that in turn, will render patients unable to interact with their families and friends and feel left-out [12]. The results have been shown that the sleep and rest sub-domain of physical domain, it has effect at moderate, low and no effect of disease on QoL. Fortunately, increase in sleep had no effect of disease on QoL. Sleep is a priority for MI patients and should receive the same emphasis as other aspects of care. Also, it was reported that sleep disorder can create spontaneous awaking when there is every days stress due to a problem in the body, which makes it unable to sustain sleep [13].

Regarding energy and fatigue as a physical sub-domain. The items of energy and fatigue have records moderate, low, and no effect of disease on the quality of life through the RS. The highest (RS= 80). Did the patient need help when doing their favorite sport. In general (RS) recorded for this domain was low (RS= 74.6) effect of disease on QoL.

II-2   Psychological domain:

Relative to the sub-domain, of body image and appearance, the result has shown the items records high, moderate, and low effect of disease on the QoL. They recorded high RS (91.5) for appearance makes me feel uncomfortable. In general (RS) recorded for this sub-domain was moderate effect of RS (83.1) of disease on QoL. Client and family need to receive guidance and coaching to cope with the potential psychosocial problems that commonly occur following a cardiac event and often provoke stressful responses [15].

The result has showed that the thinking, learning, memory and concentration of the MI patients was record 5 out of 7 items high effect of disease on QoL. These items were patient's thinking about what happens to him, cost of disease, their work longer of treatment and future of their health status. Fortunately, memory and concerning noted no effect. This result is supported by another study which reported that the patient might express anxiety and fear about his ability, to resume his normal life after discharge [12]. Relative to sub-domain of self-esteem, the results showed that the item records moderate, low and no effect grades, the sharing in activity record moderate (RS=86.7) of effect of disease on QoL. It can be concluded that MI patients had low effect of disease on self-esteem. It was reported that the clients may have difficulty in maintaining self-esteem as they face changes in their lifestyle and roles [15].

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The results have showed that the items of positive feeling sub-domain have low record in general, low and no effective grades and only two items record high and moderate grades. The item that record high grades was disease made them feel what other suffer (RS=95) and the item record moderate grades was patient felt benefits to their family and community (RS=81.3). This finding is supported by a study which mentioned that the effect of a positive attitude and social support are also being recognized helpful for successful recovery and post MI life [18].

The results have showed that most items of negative feeling, sub-domain have no effect record, low and no effective grades and only two items record high and moderate grades. The items that record no effect of disease on QoL lost their role and importance in family (RS=60), the patient blames their family (RS= 46.7), lost of effect of disease on QoL. While, the item record high the patient feel tense and disturbed (RS=89.7) and the item record moderate grades was patient felt hopeless from future (RS=80). In general, the results showed that the psychological sub-domain Thinking, Learning, Memory and Concentration was rated moderate with (RS=86.7), compare to the other sub-domains: Negative feeling was rated no effect, with (RS=65.7).

II-3 Level of independence domain

The study findings revealed that the patient has moderate in climbing stair (RS=84), while no difficulties in move inside the house (RS=50). It was stated that the less physical activity is required to lower the risk of coronary artery disease than is required to optimize cardiopulmonary fitness [15]. A major physiologic effect of exercise training is improved functional capacity with reduced fatigue, dyspnea, angina or related symptoms, overall musculoskeletal condition improves, but the construction of coronary arteries and collateral circulation is not know to be directly affected. The results have showed at the items of activity of daily living sub-domain have moderate and low effect of disease on QoL. The patient could not climb stairs, he may benefit from moving the bedroom to a lower level in the home [16].

The results have shown most items record no effect of disease on quality of life related dependence of medication, except the items patient need medication for function in their daily life record moderate effect of disease (RS= 80), patient's life depends on the use of medication record high effect of disease (RS=92). It was stated that the assessment of what the client knows about his or her medication is paramount [16], knowing what the medication is called, its function, the schedule for taking it, and its side effects is required for patient safety.

The results have shown that the item of work capacity record high and moderate grades, the highest relative sufficiency was their plan to work is changed (RS= 90), and the disease prevent him from working (RS=89.7). This results is supported by a study which stated that the patient need teaching to reduce his risk of extending the infarct or developing complications [11]. In addition of avoiding or modifying activities such as driving, returning to work and heavy lifting and pushing. In addition, the patient need explain the need for activity restrictions. Moreover, reduce the demands on the heart. Describe the prescribed activity program and emphasize that activities should be resumed gradually.

II-4   Social relationship domain

In regard to the assessment of the sub-domain of personal relationship, the items have recorded low and no effect of disease on QoL. People usually need strong relationships and try to improve their health needs by social contacts, security and affection. The results have showed that the highest (RS=83) of sub-domain social support was limitation of patient responsibility after disease and lowest effect of disease (RS =42.2) was for the patient get not any support and care from his family. The patient and family are encouraged to talk about fear of the patient dying. They should be reassured that this fear is normal [17].

Concerning sub-domain, the sexual activities have showed high grades. That means the sexual relationship is affected by disease. Regarding the sexual activity therefore and due to the teaching and consultation of the medical team to avoid heavy exertion and the fear of

die with sudden death the sexual activities is normally be affected. The resumption of sexual activities may present difficulties for the patient and partner, because they do not know what to expect and are afraid that the intercourse will cause sudden death. Sexual counseling should be integral part of the cardiac rehabilitation process [17]. It requires an understanding of human sexuality and cardiovascular disease.

II-5   Spiritual domain

With respect to the assessment of the positive beliefs, the result presented that all items have recorded high effect of disease on quality of life. The patient believed that God test their faith, and the MI made them belief in God (RS=96.7). Spiritual health may facilitate attitude changes to accept new condition in life and find meaning of existence and this will create positive outcome to restore them to satisfaction and fulfillment [20].

The results have shown the item of negative believe record moderate and low grades, the highest relative sufficiency that are moderate was the disease is punishments of God (RS= 86.7). In general negative believes record low effect of disease on quality of life (RS=71.3). It was mentioned that patient should be prepared to have good and bad days and be a ware of symptoms that suggest they are doing too much such as pain, dyspnea, palpitations, fatigue and dizziness [20].

II-6 Environment domain

The results have showed that the Home environment recorded no effect of grades. These items were patient felt their home uncomfortable and not live in quiet and safety environment (RS=47.5), (RS=42.2) respectively. Relative to sub-domain of health and social care the results have shown the items records moderate grades, these items was the patient to some extend not accepted their health status(RS=44.8) and patient had to some extend difficulties in getting health care (RS = 53.3) who stated that the aim for all patients is that they will be able to resume their daily lifestyle without physical symptoms, but this depends on their residual left ventricular function [20].

The results have showed that the financial resources items of the MI patient recorded 2 out of 3 items high effect of grades. These items were patient feel their disease effect the income sources (RS=92.7) and their treatment was costly (RS=90). In general, the results have shown that the highest RS of environmental sub-domain was for financial resources (RS=92.7). It was stated that the Return to work provides increased self-satisfaction, restored self-respect and relief from financial worries, although early retirement may be a more realistic option for some occupational health and community nurse can support the patient and family throughout convalescence [20].

Association between quality of life domains and demographic characteristics, clinical characteristics, and patient information of MI disease

The study presented the high statistical association between QoL and some of demographic characteristics, sex, level of education and low relationship with marital status and occupational status. Concerning to the gender, the data analysis was evidenced that the female had moderate and sever effect of disease, while there was low and moderate effect of disease on quality of life for male. That means female suffer from disease more than male. This result was consistent with another study which found that the women had significantly more negative feelings regarding all the estimated dimensions of quality of life (Contentment, Vitality, and Sleep) than in men. The effect of the sociodemographic variables on the HRQL in coronary patients has been describe by several authors who have observed a lower HRQL in women and in subjects of low social class [22].

Related to the age the application of the chi-square revealed that there was no significant association between quality of life and age. This result may be interpreted in a way that there was no variation between less than 60 years and above 60 years. In a prospective study of quality of life in patient under 70 years of age with previous infarction from a coronary care registry showed residual problems with quality of life at one years [22].

Concerning to the level of education, actually the study findings have obviously association between quality of life and level of education. The highest percentage of patients with moderate and high effect of diseases, those who do not read and write. Related to the clinical characteristics, the study results presented no statistical association between QoL of patient and their clinical characteristics such as duration of MI incidence and rehospitalization.

Relative to the patients' information of MI disease, the results also presented no statistical association between QoL of patient with the information of MI, cause of MI, side effects of treatment. This could be related to the low educational level of the sample, where (52%) is unable to read and write and in the other side the (60%) of sample do not have desire to read or hear any thing about myocardial infarction disease.

Part 1-a Discussion of the demographic characteristics of patient with MI

The study sample consists of (75) patients suffering from MI who were visiting the inpatient and the outpatient clinic of General Baquba hospital. The majority of the sample (41.7%) was of (61-70) years old. This is in agreement with a study which reported that the patients with MI are above age (70) years have a poorer prognosis than those who are below this age [3]. Concerning gender, this study presented the male with high percentage (53.3%) of sample. Concerning occupational status, this study showed that the highest percentage (44.0%) of study sample was housewife. Moreover, regarding the nature of work prior to disease, the majority (74.7%) of sample do their work with exertion and after disease the majority (53.3%) of patient became doing their work without exertion (Table 3a). This result is agreed with another study which stated that the men are much greater risk of CVD than women until old age. Women under 35 have a low risk of CVD and reported that (75) percent of all heart attacks occur to people over age 65 years old [9].

Part 1-b Discussion of the clinical characteristics of the sample

The distribution of clinical characteristics of MI patients had revealed that the higher percentage (56%) of duration of incidence of heart attacks were with the range (2-5) years. Regarding rehospitalizaton, the results indicated that (66%) of the study sample was within (1 -2) times rehospitalizaton. The Findings of the present study showed that the majority of the study sample (78.7%) reported that the patient does not have history of coronary artery disease (Table 3b). This finding was disagreed with another study which stated that the family that has history of heart disease appears to increase risks significantly [9].

Part 1-c Discussion of environment characteristic of the sample

The distribution of environment factors had showed the half of the study sample was from urban and the other one was from rural with the high percentage (49.3%) of family size (6-10) persons. The result of the present study showed that more than half of the patients (64%) reported the monthly income was not sufficient (Table 3c).

Part 1-d : Discussion about medical information of the sample.

The study results showed that most patients do not have information about MI disease, causative agent of MI disease and drugs and side effects of drugs. Also, it was showed that (97.3) of the patient has information about diet limitations according to their cases, so about the source of information (60%) of sample take this information from doctor when they visited the clinic and (34.6%) from the nurse through their admission to hospitals or through contact in the outpatient clinic (Table 3d). The promote compliance by thoroughly explaining the dose, frequency, route, and purpose of each prescribed drug, describe all possible adverse effects, advise the patient to watch for, and report signs of toxicity [11].

Part II: Assessment of QoL domains for the patients with myocardial infarction, (Table 4)

These domains consist of Physical, Psychological, Level of independence, Social relationship, Spiritual and Environmental domains.

II-1   Physical domain:

The results have showed that pain and discomfort experienced by MI patients in two levels of effect, high and moderate effect of disease on QoL according to the relative sufficiency, three out of four items rated high (RS), when lifting heavy object (RS=90.2), patients feeling discomfort when they feel the pain (RS=90.2) and when doing vigorous activity (RS=89.7). Feeling of pain and discomfort can also make the patient tired and fatigue. Moreover, long periods of restless and sleep disturbance will decrease their energy and activity and impaired mobility that in turn will render patients unable to interact with their families and friends and feel left-out [12]. The results have showed that the sleep and rest sub-domain of physical domain, it has effect at moderate, low and no effect of disease on QoL, fortunately increase in sleep had no effect of disease on QoL. Sleep is a priority for MI patients and should receive the same emphasis as other aspects of care, and also reported that sleep disorders can create spontaneous awaking when there is every days stress due to a problem in the body, which makes it unable to sustain sleep [13].

Regarding energy and fatigue as a physical sub-domain, the items of energy and fatigue have records moderate, low, and no effect of disease on the quality of life through the RS. The highest (RS=80) did the patient need help when doing their favorite sport. In general, (RS) recorded for this domain was low (RS= 74.6) effect of disease on QoL.

II-2   Psychological domain:

Relative to the sub-domain of body image and appearance, the results has showed that the items records high, moderate, and low effect of disease on the QoL. They recorded high RS (91.5) for appearance makes me feel uncomfortable. In general, (RS) recorded for this sub-domain was moderate effect of RS (83.1) of disease on QoL. Client and family need to receive guidance and coaching to cope with the potential psychosocial problems that commonly occur following a cardiac event and often provoke stressful responses [15].

The results has showed that the thinking, learning, memory and concentration of the MI patient was record 5 out of 7 items high effect of disease on QoL. These items were patient thinking about what happens to him, cost of disease, their work longer of treatment and future of their health status. Fortunately, memory and concerning noted no effect. This result is supported by another study which reported that the patient might express anxiety and fear about his ability, to resume his normal life after discharge [12]. Relative to sub-domain of self-esteem, the results has shown that the item records moderate, low and no effect grades, the sharing in activity record moderate (RS=86.7) of effect of disease on QoL. It can be concluded that MI patient had low effect of disease on self-esteem. It was reported that the clients may have difficulty in maintaining self-esteem as they face changes in their lifestyle and roles [15].

The results have showed that items of positive feeling sub-domain have low record in general, low and no effective grades and only two items record high and moderate grades. The item that record high grades was disease made them feel what other suffer (RS=95) and the item record moderate grades was patient felt benefits to their family and community (RS=81.3). This finding is supported by a study which revealed that the effect of a positive attitude and social support are also being recognized as helpful for successful recovery and post MI life [18].

The results have showed that most items of negative feeling, sub-domain have no effect record, low and no effective grades and only two item record high and moderate grades. The items that record no effect of disease on QoL lost their role and importance in family (RS=60), the patient blames their family (RS= 46.7), lost of effect of disease on QoL. While, the item record high the patient feel tense and disturbed (RS=89.7) and the item record moderate grades was patient felt hopeless from future (RS=80). In general, the results showed that the psychological sub-domain Thinking, Learning, Memory and Concentration was rated moderate with (RS=86.7), compare to the other sub-domains: Negative feeling was rated no effect, with (RS=65.7).

II-3 Level of independence domains:

The findings of the present study revealed that the patient has moderate in climbing stair (RS=84), while no difficulties in move inside the house (RS=50). It was stated that the less physical activity is required to lower the risk of coronary artery disease than is required to optimize cardiopulmonary fitness [15]. A major physiologic effect of exercise training is improved functional capacity with reduced fatigue, dyspnea, angina or related symptoms, overall musculoskeletal condition improves, but the construction of coronary arteries and collateral circulation is not know to be directly affected. The results have showed that the items of activity of daily living sub-domain have moderate and low effect of disease on QoL. The patient could not climb stairs, he may benefit from moving the bedroom to a lower level in the home [16].

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The results have showed that the item of work capacity record high and moderate grades, the highest relative sufficiency was their plan to work is changed (RS= 90), and the disease prevent him from working (RS=89.7). This result is supported by previous study which stated that the patient need teaching to reduce his risk of extending the infarct or developing complications [11]. In addition of avoiding or modifying activities such as driving, returning to work and heavy lifting and pushing. In addition, the patient need explain the need for activity restrictions. Moreover, reduce the demands on the heart. Describe the prescribed activity program and emphasize that activities should be resumed gradually.

II-4   Social relationship domain:-

Regarding to the assessment of the sub-domain of personal relationship, the items have recorded low and no effect of disease on QoL. People usually need strong relationships and try to improve their health needs by social contacts, security and affection. The results have showed that the highest (RS=83) of sub-domain social support was limitation of patient responsibility after disease and lowest effect of disease (RS =42.2) was for the patient who get no any support and care from his family. The patient and family are encouraged to talk about fear of the patient dying. They should be reassured that this fear is normal [17].

About sub-domain, the sexual activities have showed high grades. That means the sexual relationship is affected by disease. About the sexual activity, the teaching and consultation of the medical team is focused to avoid heavy exertion and the fear of sudden death due to the sexual activities is normally being affected. The resumption of sexual activities may present difficulties for the patient and partner, because they do not know what to expect and are afraid that the intercourse will cause sudden death. Sexual counseling should be integral part of the cardiac rehabilitation process [17]. It requires an understanding of human sexuality and cardiovascular disease.

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With respect to the assessment of the positive beliefs, the result presented that all items have recorded high effect of disease on quality of life. The patients believe that God test their faith, and the MI made them believe in God (RS=96.7). Spiritual health may facilitate attitude changes to accept new condition in life and find meaning of existence and this will create positive outcome to restore them to satisfaction and fulfillment [20].

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Association between quality of life domains and demographic characteristics, clinical characteristics, and patient information of MI disease

The study presented a high statistical association between QoL and some of demographic characteristics such as sex, level of education and low relationship with marital status, occupational status. Concerning the sex, the data analysis was evidenced that the female had moderate and severe effect of disease, while there was low and moderate effect of disease on quality of life for male. That means female suffer from disease more than male. The results of the study were consistent with another study which found that the women had significantly more negative feelings regarding all the estimated dimensions of quality of life (Contentment, Vitality, and Sleep) than did men. The effect of the sociodemographic variables on the HRQL in coronary patients has been described by several authors who have observed a lower HRQL in women and in subjects of low social class [22].

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Concerning the level of education, the study finding has obviously association between quality of life and level of education. The highest percentage of patients with moderate and high effect of diseases, those who do not read and write. Relative to the clinical characteristics, the present results presented no statistical association between QoL of patient and clinical characteristics such as duration of MI incidence and rehospitalization.

Relative to the patients' information of MI disease, the results also presented no statistical association between QoL of patients with the information of MI, cause of MI, side effect of treatment. This could be related to the low educational level of the sample (52%) unable to read and write. In the other side, (60%) of sample do not have desire to read or hear any thing about myocardial infarction disease.

Recommendations: The study recommendation:

1- Coordination and Cooperation between the ministry of health and ministry of higher education through innerves continues education specially oriented toward nurses in cardiac units to update with most current information.

2- An education program can be designed for MI patient and their family who are treated in the hospital.

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