

Assessment of General Health and physical aspect for Patients Undergoing Percutaneous Transluminal Coronary Angioplasty in Baghdad City

Aqeel Habeeb Jasim/ Assistant Instructor, University of Baghdad/College of Nursing

الخلاصة:

الهدف: تقييم الصحة العامة والجانب البدني للمرضى الذين اجريت لهم عملية فتح الشرايين التاجية بتقنية البالون من خلال الجلد في مدينة بغداد.

تصميم البحث: دراسة وصفية باستخدام طريق التقييم لتحقيق الاهداف موضوع الدراسة. **المنهجية:** أجريت دراسة وصفية باستخدام عينة قصدية (غير عشوائية) لعينة مكونة من 70 مريض تم اختيارهم لتحقيق اهداف الدراسة ، بدأت الدراسة من اذار 2011 ولغاية نيسان 2012. تم تبني وتطوير استمارة الاستبانة من قبل الباحث لقياس متغيرات الدراسة الحالية. جمعت المعلومات من خلال استخدام الاستبانة المعدلة وطريقة المقابلة المنظمة مع المرضى،مقابلة المريض الواحد استغرقت (15) دقيقة،المعلومات جمعت للمدة من 15 نيسان 2011 ولغاية 20 تشرين الثاني 2011. تم تحليل البيانات من خلال أسلوب تحليل البيانات الوصفي (للكرارات،النسب المئوية، الوسط الحسابي،الانحراف المعياري) وأسلوب تحليل البيانات الاستنتاجي (معامل التوافق،معامل ارتباط سبيرمان) . **النتائج:** أظهرت النتائج إن معظم العينة كانت من الرجال ، متزوجون، يقرأون ويكتبون ،لديهم اعمال حرة و ضمن الفئة العمرية (50-59) سنة ، يعانون من داء السكري وفترة تشخيص المرض لديهم(1-5) سنوات ، أكدت الدراسة ان معظم المرضى حصلوا على درجة متوسطة من الصحة العامة والجانب البدني لمرضى التداخل العلاجي من خلال البالون. **التوصيات:** أوصت الدراسة بضرورة تصميم برنامج تعليمي وكتيبات توزع إلى لزيادة معلومات المرضى حول عملية توسيع الشرايين لتحسين نوعية حياتهم.

Abstract:

Objectives: To assess the general health and physical aspect for patients undergoing Percutaneous transluminal coronary angioplasty in Baghdad city. **Design:** A descriptive study in which the assessment approach is applied to achieve the objectives of the study. **Methodology:** A descriptive study (A purposive (non-probability)) sample of (70) patients was selected to assess the objective of the study, The study was initiated from March 15th, 2011 until the 20th of April, 2012. A questionnaire was designed and constructed by the researcher to easure the variables underlying the present study. The data were collected through the utilization of the developed questionnaire and by means of structured interview with the patients, the interview with each patients took approximately (15) minutes, the data collection was performed from (April 15th, 2011 until the 20th of November, 2011). Data were analyzed through using descriptive Statistical Data Analysis which include (Frequency, Percentage, Arithmetic mean, The standard deviation (SD)) and Inferential Statistical Data Analysis (Contingency Coefficient, Spearman rank correlation coefficient) . **Results:** the study indicated the most of sample male, married, read and write, self-employee and in age group (50-59) years old, suffering from diabetes, period of disease diagnosis (1-5) years, the study confirmed the most of patients had moderate level in regard general health and physical aspect of patients undergoing PCI. **Recommendations:** An educational program should be designed and Pamphlets or manuals should be distributed to increase patients' information about PTCA procedure to improve their quality of life.

Key words: General health , Physical aspect ,PTCA, Assessment, Baghdad city

INTRODUCTION:

Coronary Heart Disease (CHD) consider the epidemic proportions in Asian countries, CHD rates among countries like Indians are two to four folds higher at all ages and five to ten folds higher under the age of forty ,A large number of these patients need revascularisation procedures and There has been a phenomenal growth

in Interventional Cardiology procedures such as PTCA during last two decades world over including India. More than 800,000 PTCA are performed worldwide per year⁽¹⁾.

Since percutaneous transluminal coronary angioplasty (PTCA) introduction by Andreas Gruntzig in 1977, percutaneous coronary intervention (PCI) has revolutionised the care for patients with coronary artery disease (CAD) , In the United States, more than one million patients are treated with percutaneous coronary intervention⁽²⁾.

Coronary artery disease affected about 16 million patients in united status at an estimated cost of 156 \$ billion in 2008. More than 650,000 patients undergo percutaneous transluminal coronary angioplasty (PTCA) or stent procedures annually, representing a 324% increase in PTCA procedures between 1987 and 2002⁽³⁾.

There are two ways of revascularization are established for coronary artery disease which include CABG, introduced in 1968, and PCI. Percutaneous coronary intervention includes percutaneous balloon angioplasty, introduced in 1977, and stenting with bare metal stents (BMSs), in use since 1995, or drug-eluting stents (DESs), in use since 2003⁽⁴⁾.

Several clinical studies have shown that acute myocardial infarction (AMI) causes a decline in all patients functioning like the physical and psychological, social, These changes in health status outcome or quality of life (QOL) can impair the patient's ability to perform even basic daily tasks⁽⁵⁾.

This study aims to assess general health of patients and their ability to deal with some of physical aspects like: pain, discomfort, energy and work, sleep, and symptoms related to patients conditions.

METHODOLOGY:

A descriptive study in which the assessment approach is applied to assess the general health and physical aspect for patients undergoing Percutaneous transluminal coronary angioplasty (PTCA) in Baghdad city, The study was initiated from March 15th, 2011 until the 20th of April, 2012.

The Study was conducted on patients undergoing Percutaneous transluminal coronary angioplasty procedure were attended to outpatient clinics at three Baghdad hospitals (Iraqi center for heart disease , Ibn- Al – Bettar Hospital and Ibn- Al – Nafees Hospital). These hospitals are considered the most appropriate settings in which the subjects for the study can be selected.

A purposive (non-probability) sample of (70) patients were selected based on the following criteria:

Criteria for patient with undergoing PTCA procedure:

1- Patients undergoing PTCA procedure for at least one year ago.

2- Free from complications and target organ damage.

3- Free from other chronic illnesses except diabetes mellitus.

A questionnaire was designed and constructed by the researcher to measure the variables underlying the present study, which was consisted of four parts.

Part I: demographic Characteristics: This part was designed to measure the sample demographic characteristics, which include age, gender, marital status, level of education, occupational status.

Part II: Clinical Data: Clinical data in term of period of disease diagnosis, cost of medication, number of drugs use, regularity of drug taking, how often balloon made, presence of diabetes mellitus.

Part III: General Health Questionnaire: It was adopted from short form quality of life-36 items (SF-36) scale and consisted of two items to determine the general health of the sample and rated as (good, fair, poor) and calculated according to quartile ranging ,The higher score of the questionnaire its mean the good general health.

Part IV: physical dimension Scale: The investigator adopted and developed physical aspect scale from the quality of life world health organization scale⁽⁶⁾ to measure the variable underlying the present study and based on (4) subdomains wich were described (Pain and discomfort (4) items; energy and fatigue (6) items; sleep (3) items; and symptoms related disease (9) items.

The items of the questionnaire were rated and scored according to the following:

- a- Three point likert scale is used for rating the items as always, sometimes, never⁽⁷⁾. The three point type likert scale is scored as (3) for always, (2) for sometimes, (1) for never in all items. The higher score of the questionnaire means good general health and physical aspect for patients.
- b- Quartile, after arranging the sum of items ascending for patients answers to determine the general health and physical aspect levels (good, fair, poor) Quartile was calculated as following formula :

$$(Q1=1/4n \quad Q2=2/4n \quad Q3=3/4n)$$

The validity of the instrument was achieved through a panel of experts, the developed questionnaire was designed and presented to (10) experts: (7) Faculty members from the College of Nursing/ University of Baghdad, and,(1) Faculty member at the statistical department of College of the Administration and Economics/ University of Baghdad, (1) faculty member is at the Iraqi Cardiac Center in A surgical Specialist Hospital, (1) faculty members at Abn-Albitar specialized center for cardiac surgery.

The data were collected through the utilization of the developed questionnaire and by means of structured interview with the subjects, the subjects were individually interviewed in the outpatient clinics by using the Arabic version of the questionnaire,

the interview with each patients took approximately (15) minutes, the data collection was performed from (April 15th, 2011 until the 20th of November, 2011).

Data were analyzed through the use of statistical package of social sciences (SPSS) version (16) through using descriptive Statistical Data Analysis which include(Frequency, Percentage, Arithmetic mean,The standard deviation (SD)) and Inferential Statistical Data Analysis (Contingency Coefficient, Spearman rank correlation coefficient (rs) (rho) ⁽⁷⁾ .

RESULTS:

Table (1) Distribution of the patients of the study by their Demographic Characteristics:

NO.	Characteristics of sample	Frequency	Percentage
1-	Gender		
	Male	49	70
	Female	21	30
	Total	70	100
2-	Age		
	40 years	13	18.6
	40 – 49 years	26	37.1
	50 – 59 years	31	44.3
	Total	70	100
	Mean	47.41	
	SD	6.38	
3-	Marital Status		
	Single	2	2.9
	Married	56	80
	Widow / Widowed	12	17.1
	Divorced	0	0
	Total	70	100
4-	Educational Level		
	Not read and write	8	11.4
	Read and write	19	27.1
	Primary school graduate	10	14.3
	Intermediate school	13	18.6
	Preparatory School graduate	10	14.3
	Institute/College graduate	9	12.9
	Master and Dectorate	1	1.4
	Total	70	100
5-	Occupation		
	Governmental employee	19	27.1
	Self-employed	27	38.6
	Retired	9	12.9
	Housewife	14	20.0
	Unemployed	1	1.4
	Total	70	100

Table (1) shows that the distribution of the patients of the study, Regarding gender, the majority of sample (70%) were male, and according to age group, the majority of patients (44.3%) were of (50-59) years old age and the mean age of

patients were (47.4) years $\pm$ (6.38), Regarding marital status, the highest percentage of patients (80 %) were married.

Regarding level of education, the data shows that the highest percentage of patient's undergoing PTCA procedure (27.1%) were reading and writing.

Regarding to the occupation status the table presents that the majority of sample (38.6%) were self-employed.

Table (2) Distribution of the patients by their Clinical Characteristics:

NO.	Characteristics of sample	Frequency	Percentage
1-	Cost of drugs payment		
	Costly	7	10
	Mostly costly	54	77.1
	Not costly	9	12.9
	Total	70	100
2-	Period of disease diagnosis		
	1 – 5 years ago	51	72.9
	6 - 10 years ago	16	22.9
	11 - 15 years ago	2	2.9
	16 - 20 years ago	1	1.4
	Total	70	100
3-	No. of drugs taken		
	1 -2 drugs	9	12.9
	3-4 drugs	51	72.8
	> 4 drugs	10	14.3
	Total	70	100
4-	Regularity of drugs taking		
	Yes	66	94.3
	No	4	5.7
	Total	70	100
5-	How often Balloon made?		
	1	4	5.7
	2	63	90.0
	3	3	4.3
	Total	70	100
6-	Are you suffer from Diabetes Millitus		
	Yes	46	65.7
	No	24	34.3
	Total	70	100

Table (2) reveals the clinical data of patients study, regarding to Cost of drugs payment result shows most of patients (77.1%) find that drugs mostly cost, in period of disease diagnosis the result finding that highest percentage of patients (72.9%) were at group (1-5) years and most of patients (72.8%) were taking 3-4 drugs and majority of patients (94.3%) take drugs regular and most of patients (90%) made procedure for the second time ,in regarding suffering of diabetes mellitus more than one half of patients (65.7%) suffering from diabetes mellitus.

Table (3) General health and physical domains for patients undergoing PTCA procedure.

Variables	patients level						Total		Mean statistic		Grade
	Good		Fair*		Poor				Mean	SD	
	F	%	F	%	F	%	F	%			
1- General Health	10	14.3	47	67.1	13	18.6	70	100	2.04	0.57	Moderate
2-Total Physical functioning	17	24.3	32	45.7	21	30	70	100	2.08	0.23	Moderate
-Pain	15	21.4	31	44.3	24	34.3	70	100	2.07	0.34	Moderate
-Energy	33	32.9	26	37.1	21	30	70	100	1.64	0.35	Moderate
-Sleep	10	14.3	36	51.4	24	34.3	70	100	2.52	0.33	High
-Symptoms	24	34.3	28	40	18	25.7	70	100	2.10	0.26	Moderate

*(moderate) / SD = standard deviation / F=Frequency / % = percentage

Table (3) indicates the results of general health and physical aspect for patients undergoing PTCA procedure.

Regarding general health, the results show that most of patients (67.1%) rated as moderate level, regarding total physical aspect The results show that major study sample

(45.7%) rated as moderate health level.

In addition to total physical aspect the study reveals the subdomains of physical aspect (pain, energy, sleep, symptoms), in regard that the finding show all of subdomains rated as moderate physical functioning level (44.3%),(37.1%),(51.4%),(40%) respectively, and all of them had moderate grade in mean of score except the sleep was graded as (2.52) high mean score.

Table (4): Association and Correlation between General Health for Patients with their Demographical Variables

(P. Value) = probability Value, (Sig) significant Probability value ($p < 0.05$) / df= degree of

Demographic Variables	General Health of PTCA patients				
	Contingency Coefficients				Sperman Correlation (P.value)
	Value	df	P. Value	Significant	
Gander	0.180	2	0.308	NS	0.408
Age	0.320	4	0.091	NS	0.150
Marital Status	0.352	6	0.042	S	0.027
Level of Education	0.404	12	0.326	NS	0.112
Occupation Status	0.386	8	0.141	NS	0.233

freedom NS= non significant / S=significant

Table (4) reveals that there were significant relationship between general health and marital status ($P=0.04$), and non-significant relationship between general health and other demographic variables: gender ($P= 0.30$), age ($P=0.09$), level of education ($P=0.32$), occupation status (0.14) respectively.

Table also show there is weak correlation between general health of PTCA patients and gender (0.40), occupation status (0.23), age (0.15), level of education (0.11), and marital status (0.02).

Table (5): Association and Correlation between general health for Patients with their Clinical Variables:

(P. Value) = probability Value, (Sig) significant Probability value ($p < 0.05$) / df= degree of

Demographic Variables	General Health of PTCA patients				
	Contingency Coefficients				Sperman Correlation (P.value)
	Value	df	P. Value	Significant	
Period of disease diagnosis	0.344	6	0.153	NS	0.169
Number of drugs taken	0.334	6	0.722	NS	0.921
Regularity of drugs taking	0.258	2	0.082	NS	0.318
How often Balloon made	0.268	4	0.249	NS	0.046
Diabetes Mellitus	0.155	2	0.423	NS	0.197

freedom /NS= non significant / S=significant

Table (5) reveals that there were non-significant relationship between general health for patients and all clinical variables: period of disease diagnosis ($P= 0.15$), number of drug taken ($P=0.72$), regularity of drug taken ($P= 0.08$), how often balloon made ($P=0.24$), diabetes mellitus(0.42) respectively.

Table also shows there is strong correlation between general health for PTCA patients and number of drug taken ($P=0.92$),and weak correlation between general health for PTCA patients and regularity of drug taken ($P= 0.31$), diabetes mellitus($P= 0.19$), period of disease diagnosis ($P= 0.16$), how often balloon made ($P=0.04$) respectively.

Table (6): Association and Correlation between physical domain for Patients with their Demographical Variables:

(P. Value) = probability Value, (Sig) significant Probability value ($p < 0.05$)/ df= degree

Demographic Variables	Physical domain of PTCA patients				
	Contingency Coefficients				Sperman Correlation (P.value)
	Value	df	P. Value	Significant	
Gender	0.284	2	0.46	NS	0.723
Age	0.351	4	0.43	NS	0.128
Marital Status	0.350	6	0.44	NS	0.464
Level of Education	0.330	12	0.739	NS	0.662
Occupation Status	0.309	8	0.495	NS	0.793

of freedom /NS= non significant / S=significant

Table (6) reveals that there were non-significant relationship between total physical domain and all demographic variables: gender ($P= 0.46$),age ($P=0.43$), marital status ($P=0.44$) ,level of education ($P=0.73$),occupation status(0.495) respectively.

Table also show there is strong correlation between Physical domain of PTCA patients and occupation status(0.79) ,gender(0.72),and moderate correlation between Physical domain of PTCA patients and level of education (0.66),and weak correlation between Physical domain of PTCA patients and marital status(0.46), age (0.12).

Table (7): Association and Correlation between physical domain for Patients with their Clinical Variables:

Demographic Variables	Physical domain of PTCA patients				
	Contingency Coefficients				Sperman Correlation (P.value)
	Value	df	P. Value	Significant	
Period of disease diagnosis	0.357	6	0.116	NS	0.089
Number of drugs taken	0.360	6	0.580	NS	0.776
Regularity of drugs taking	0.291	2	0.039	S	0.135
How often Balloon made	0.291	4	0.166	NS	0.119
Diabetes Mellitus	0.062	2	0.872	NS	0.823

(P. Value) = probability Value, (Sig) significant Probability value ($p < 0.05$) / df= degree of freedom /NS= non significant / S=significant

Table (7) show that there were significant relationship between total physical domain for patients and regularity of drug taken ($P= 0.03$), and

Table reveals that there were non-significant relationship between total physical domain for patients and other all clinical variables: period of disease diagnosis ($P= 0.11$), number of drug taken ($P=0.58$), how often balloon made ($P=0.16$), diabetes mellitus (0.87) respectively.

Table also show there is strong correlation between total physical domain for PTCA patients and diabetes mellitus ($P= 0.82$), number of drug taken ($P=0.77$), and weak correlation between total physical domain for PTCA patients and regularity of drug taken ($P= 0.13$), how often balloon made ($P=0.11$), period of disease diagnosis ($P= 0.08$), respectively.

DISCUSSION:

Research results shows that more than two third of study sample were male, and most of them in age group (50-59) years and married, self employee and reading and writing.(table1)

this results are supported by other study which show that most of study sample were male⁽⁸⁾ ⁽⁹⁾ ⁽¹⁰⁾ and mean age of sample (61.9) years⁽⁹⁾ other studies⁽¹¹⁾ indicated that age was 59.3years,and mean age 57 years⁽⁸⁾ and mean age 62.7 years (SD 5.7) in additional studies⁽¹⁰⁾.

In regard these results, studies reveals two third (71%) of their study Live with spouse,(38%) of study sample of their study were suffering from diabetes mellitus, inspite of their study reported that (78%) of their study were completed high school⁽⁹⁾.

The result finding that major period of disease diagnosis in patients were (1-5 years) and more than two third of study sample were taking 3-4 drugs and suffering from disease and most of them compliance in taking drug regularly. This study show majority of sample made intervention more than one time(table 2) this result is supported by other study which reveals that third of his result study had previous PCI. ^{(8) (9)}

The study result in (table 3,4) is supported by other study ⁽¹²⁾ which reveals that The PTCA group had significantly greater improvements in physical functioning, vitality and general health at both three months and one year, other researcher stated that the Chest pain and shortness of breath at rest and on exertion decreased and functional and psychological status improved 3.9 months after PTCA⁽⁸⁾,some of researcher reported that the QOL of the patients who had undergone CABG and PTCA was significantly better on the dimensions of energy, pain, and mobility one year after the intervention⁽¹³⁾.

The study reveals there significant relationship between general health and marital status and non-significant relationship between general health and other demographic variables (table 4)

In addition, result reveals that there were non-significant relationship between general health for patients and all clinical variables (table 5).

Women with coronary artery disease (CAD) reported significantly poorer QOL than age-matched women in the healthy sample, as measured by the following dimensions of the: energy, sleep, pain, emotional reactions, and physical mobility. QOL for women with CAD was lower than that of men with CAD. The mean indexes of four dimensions, energy, sleep, emotional reactions, and physical mobility were higher for women with CAD than men with CAD in the two youngest age groups ⁽¹⁴⁾. In regard to diabetes this result supported by other study which stated that the QOL measures were similar between both patient groups diabetes and non diabetes patients at baseline ⁽⁵⁾.

Result reveals that there were non-significant relationship between total physical domain and all demographic variables (table 6).

Regarding study results in table (7), other researcher confirm that fragmented sleep is a problem partly because of psycho-physiological symptoms one year after PTCA, with reduced restlessness to stress, increasing vulnerability or diminished coping ability and poorer quality of life ⁽¹⁰⁾ .

CONCLUSION:

According to the present study findings, the researcher enabled to make the following conclusions:

- the study indicated the most of patients were male, and married ,they can read and write, and they work as self employee and in age group (50-59) years old, suffering from diabetes and had restenosis in artery revascularization , period of disease diagnosis (1-5) years.
- the study confirmed moderate level in general health and total and sub domain of physical aspect of patients undergoing PCI.

RECOMMENDATIONS:

According to the results of the study, the researcher recommends that:

1. An educational program should be designed and performed on admissions of patients to increase their information about PTCA procedure to improve their quality of life.
2. Pamphlets or manuals should be distributed to patients that include information regarding management of disease by diet, energy, sleep, complication that may occur after the procedure.
3. Further study should be conducted included large sample study.

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