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Assessment of the effect of video information on patient's anxiety undergoing cardiac catheterization in An Nasiriyah city

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Abstract

The researcher applies descriptive study to assessment of the effect of video information on patient's anxiety undergoing cardiac catheterization in An Nasiriyah city. **Study aims**: is to assess effect of video information on patient's anxiety undergoing cardiac catheterization. **The setting of study:** The study was performed in An Nasiriyah city; between (9/February to 3/March / 2015), in An Nasiriyah heart center - in Medical Wards. **The study sample**: A non-probability (purposive) sample of (100) patients. The study population consisted of a sample of adults from both genders whose ages were 30 years and more, and was newly diagnosed as having CAD (coronary artery disease) and they admitted to hospital in order to confirm the diagnosis by coronary angiography in the cardiac catheterization unit of An Nasiriyah heart center. **Data collection:** The data, which were collected in the hospital for the period from 9 of February to 3 of March / 2015, include in two major parts was constructed for the purpose of the study:- 1-socio-demographic characteristic, which includes 5 variables(items) (age, gender, occupational status, level of education, marital status) 2- the

questionnaire related to signs & symptoms of anxiety, which includes of (5) items & (26) sub-items: Nervous system included (lack of concentration, headache, insomnia, muscle spasm, nervous, dizziness, frequent sweaty, dry mouth, fear ,Trembling, Un happiness, Crying easily, Numbness, Sensitivity to nose), Cardiovascular system included (palpitation, fatigue & restlessness), Digestive system included (anorexia, difficulty in swallowing, dysphagia, nausea, & diarrhea), Respiratory system included (shortness of breathing, increase of respiration (over breathing)), Urinary system included (Nocturia, Increase the number of times urination. **Data analysis**: the data was analyzed through the use of statistical approaches. They are descriptive statistical analysis (frequencies, percentage, SD, Range of scores, mean of scores and relative sufficiency. **Results**: The result of the study showed the samples that have low or absent pre-test anxiety level were (39 (39%)). The moderate level were (52 (52%)) and the high level were (9 (9%), While the result shows the of samples that have low or absent post-test anxiety level were (79 (79%)). The moderate level were (21 (21%), **Recommendation:** Based on the above results, this study recommends conducting An education program should be designed to increase information of the patients about anxiety associated with coronary angiography. Also Prepare educational video (animation video about the procedure) for the patients before one-hour pre-operation to decrease anxiety, as well as the establishing specialized educational center to provide information and educate patient before coronary angiography procedure.

Keywords: Assessment, anxiety, cardiac catheterization, video information

الخلاصة

أجريت دراسة وصفية لتقييم تأثير معلومات الفيديو على قلق المرضى الخاضعين للقسطرة القلبية في مدينة الناصرية. وهدفت الدراسة إلى تقييم تأثير معلومات الفيديو على قلق المرضى الخاضعين للقسطرة القلبية. لقد تم أجراء هذه الدراسة في مدينة الناصرية للفترة الممتدة من (9 فبراير إلى 3 مارس 2015) وذلك في مركز الناصرية للقلب في الأجنحة ألطبية. عينة الدراسة شملت (100) من المرضى اختيروا من مركز الناصرية للقلب. اختيرت عينة غرضيه (غير الاحتمالية) تكونت من (100) مريض. وتألفت سكان الدراسة من عينة من البالغين من كلا الجنسين الذين كانت أعمارهم 30 عاما وأكثر وشخصوا حديثا بإصابتهم بمرض الشرايين التاجية وأدخلوا إلى المستشفى من أجل تأكيد التشخيص بواسطة تصوير الأوعية التاجية في وحدة قسطرة القلب بمركز الناصرية للقلب. وتشمل البيانات التي تم جمعها في المستشفى للفترة من 9 فبراير إلى 3 مارس 2015 في قسمين رئيسيين شيدا لغرض ألدراسة : الجزء الأول يخص المعلومات الاجتماعية والديمغرافية والتي تضم 5 متغيرات (عناصر) العمر, الجنس، والحالة المهنية، ومستوى التعليم، الحالة الاجتماعية) إما الجزء الثاني فيشمل الاستبيان الذي يتعلق بعلامات وأعراض القلق، والذي يتضمن من (5) متغيرات (بنود) و(26) من المتغيرات الفرعية (البنود الفرعية) : النظام العصبي وتضمن (عدم القدرة على التركيز، والصداع، والأرق، وتشنج العضلات، والعصبية، والدوار، وكثرة العرق، وجفاف الفم، والخوف)، نظام القلب والأوعية الدموية وشمل (خفقان، والتعب، والأرق)، الجهاز الهضمي وشمل (فقدان الشهية، صعوبة في البلع، اضطراب في المعدة، والغثيان، والإسهال)، الجهاز التنفسي وشمل (ضيق في التنفس، وزيادة التنفس)، الجهاز البولي شمل (كثرة التبول إثناء الليل، وزيادة عدد مرات التبول. تحليل البيانات: تم تحليل البيانات من خلال استخدام أساليب إحصائية. هي التحليل الإحصائي الوصفي (التكرارات والنسب المئوية، الانحراف المعياري، مدى الأعداد الكبيرةِ، متوسط الأعداد الكبيرةِ والاكتفاء النسبي). النتائج: أظهرت نتائج الدراسة أن مستوى القلق

للعينات التي لديها مستوى القلق منخفض أو غائب ما قبل إجراء الاختبار هي (39 (39 ٪)). بينما كانت نسبة القلق المعتدلة هي (52 (52 ٪)) ونسبة القلق عالية المستوى هي (9 (9 ٪ %)). بينما تظهر نتيجة النسبة المئويةَ مِنْ العيناتِ التي لَها مستوى واطئُ أَو مستوى قلقِ غائب ما بعد الاختبار هي (79 (79 %)). نسبة القلق معتدلة المستوى كَانتْ (21 (21%)).التوصيات: استنادا إلى النتائج المذكورة أعلاه، فأن هذه الدراسة توصي ببناء برنامج تعليمي لزيادة معلومات المريض عن القلق المرتبط بتصوير الأوعية التاجية. أيضا إعداد فيديو تعليمي (فيدوا رسوم متحركة عن طريقة اجراء التدخل القسطاري) للمرضى قبل ساعة واحدة ما قبل اجراء العملية لتقليل القلق، فضلا عن تأسيس مركز تعليمي متخصص لتوفير المعلومات وتثقيف المرضى قبل إجراء تصوير الأوعية التاجية.

Introduction

The heart disease has become a major killer of mankind. With the vast changes in the lifestyle of people, cardiac problems are increasing day by day in our country, also the cardiovascular disease are becoming a leading cause of morbidity and mortality among coronary vascular disease. The coronary artery disease has become the most important cause of pre matured death and disability in the population in some countries on death among three men around the age of 55 years is due to CAD (1,2).

Coronary heart disease is the single leading cause of death in the United States. Cardiovascular diseases are responsible for the lives of 41.4 % of more than 2.3 million Americans who die each year. Nearly 59 million Americans have some form of cardiovascular disease, ranging from congenital heart defects to high blood pressure and atherosclerosis (3).

With the development of hemodynamic studies and interventional and diagnostic techniques, the mortality rate of coronary heart diseases decreased significantly (4).

Presently, heart catheterization is the most used hemodynamic interventional and diagnostic technique worldwide and accounts for approximately six thousand procedures per one million inhabitants, per year, in Western counties. The complication and restenosis rates are low (5,6).

Cardiac catheterization is the insertion of a catheter up to the aorta and left ventricle by puncturing the brachial or femoral artery. Images of the coronary arteries are shown by injecting contrast through the catheter. This procedure is used for diagnostic assessment to confirm or determine the extent and severity of the cardiopathy (6).

Although being the test of choice to diagnose and treat coronary disease, it still presents potential risks, such as arrhythmias, embolism, neurologic alterations, and vasovagal changes, in addition to ischemic, allergic and vascular complications (7).

Cardiac catheterization is generally an elective procedure in which a symptomatic patient with heart disease follows a protocol that requires admission to hospital (8,9).

Waiting for the procedure can be a major source of stress and anxiety. These feelings are directly related to the invasive nature of the procedure and to uncertainties related to diagnosis (10).

In daily practice it is observed that patients do not understand clearly information given by the healthcare team due to stress and anxiety. In this context of waiting and anxiety, relatives are also stressed and share feelings and uncertainties with the patients, thus turning the situation more complex for the nursing team, since these experiences are mainly witnessed by nurses (10).

In the daily routine, nurses find it difficult to deal with patients' and relatives' anxiety in the pre-catheterization period. This may be justified or worsened by the lack of specific nursing standards related to family support (10).

In face of this situation, nurses should get the best pieces of information available to deliver a better care, thus diminishing the stressing factors to reduce patients' and relatives' anxiety (10).

MATERIALS AND METHODOLOGY

Administration Arrangement

Written official permission has been obtained from college of nursing, training & employ development department of Thi-qar & An Nasiriya heart center in An Nasiriya city.

Setting of the Study

The study was conducted in the medical cardiac wards in tow times, pre-test after the patients admitted to the hospital and post-test, before the

patient's confirm diagnosis CAD by cardiac catheterization in the An Nasiriya heart center, in An Nasiriya city, Thi-qar, Iraq.

Design of the Study

A descriptive study was carried out through the present investigation in order to achieve the objects of the present study. Data collection started from 9 of February to 3 of March / 2015.

The Sample of the Study

A non-probability (purposive) sample of (100) patients was selected. All the patients who had primary diagnosed CAD and they had a medical records and admitted to the cardiac wards for An Nasiriyah Heart Center hospital.

Tool of the study:

For the purpose of the present study, a questionnaire was designed & constructed by the researcher to measure the variable. Such as construction was employed through the review of literature & related studies. The questionnaire comprised of (2) parts, related to the following:

Part I: Socio- Demographic Data:

It consists of (5) items, related to the Socio-demographic characteristics of these patients which include age, gender, occupational status, level of education, marital status.

Part II: Signs & Symptoms of Anxiety Level:

It consists of (5) items & (26) sub-items:

Nervous system included (lack of concentration, headache, insomnia, muscle spasm, nervous, dizziness, frequent sweaty, dry mouth, fear ,Trembling, Un happiness, Crying easily, Numbness, Sensitivity to nose), Cardiovascular system included (palpitation, fatigue & restlessness), Digestive system included (anorexia, difficulty in swallowing, dysphagia, nausea, & diarrhea), Respiratory system included (shortness of breathing, increase of respiration (over breathing)), Urinary system included (Nocturia, Increase the number of times urination).

- This part was measured through anxiety level. pre-test and post-test.
- All these items were rated and scored by five level types option scale as absent (0), mild (1), moderate (2), severe (3), very severe (4). The high score of anxiety level obtained, it means higher modification by patients.

Five rating scale were used as follows:

Collection number of scale ÷no of scale = cut of point

(0+1+2+3+4) = 10 so 10 ÷5 = 2 cut of point

$$= \frac{\text{cut of point}}{\text{no.of scale}} \times 100$$

$$= \frac{2}{5} \times 100 = 40$$

So the interval had been ranged, between (40 -100) that, represented the rate of the lifestyle modification.

$$= \frac{100-40}{5} = 12$$

Suggestion was made for classifying the early stated interval for anxiety level into main categories as follows:

40 + 12= 52

(40 – 52) is little level

(52.1– 64.1) is mild level

(64.2 – 76.2) is moderate level

(76.3 – 88.3) is severe level

(88.4 – 100) is very severe level

In addition, less than 40 its mean there is no anxiety

Statistical Analysis

The data analyzed through the application of statistical procedures and using the package of SPSS version (20).

The following statistical procedures are used in this study:

Descriptive Statistical Procedures

This approach was performed through the determination of:

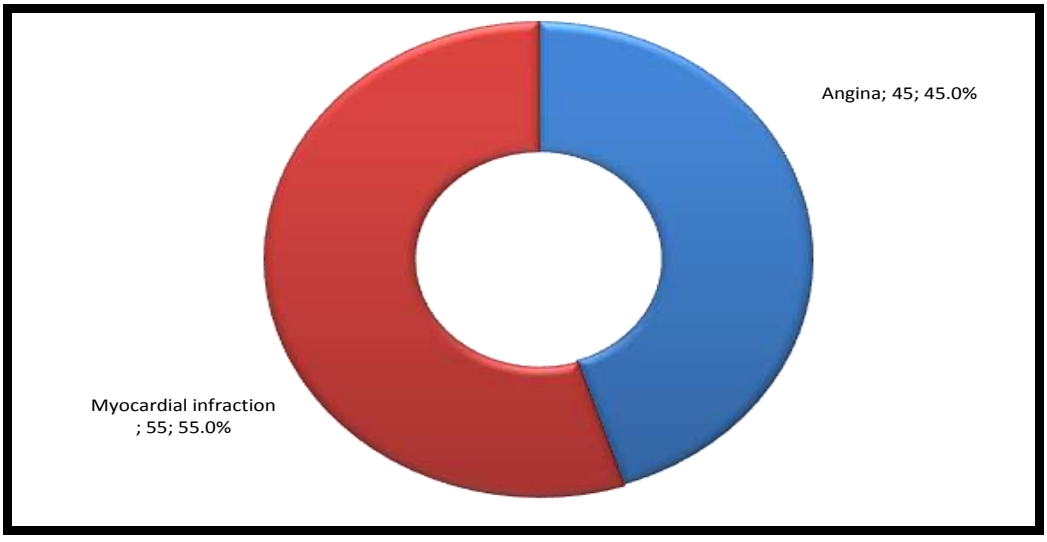
Frequency (f) , Percentage (%) ,% = $\Sigma f/n \times$ **100**

Inferential Statistical Procedures

Reliability (r) $$r = \frac{\Sigma xy - n(\bar{x})(\bar{y})}{\sqrt{[\Sigma x^2 - n(\bar{x})^2][\Sigma y^2 - n(\bar{y})^2]}}$$

RESULTS

Figure.1: Percentage Distribution of the Study Population by Diagnosis



n= number of samples, F= frequency, %=percentage

This figure shows that (55.55%) of the study sample have a myocardial infarction, while (45.45%) of patients have angina.

Table (1) Distribution of Patients according to Socio - Demographic Characteristic no= 100

Variable		no	%
Age	30- 39	7	7.0
	40 --49	13	13.0
	50--59	30	30.0
	60--69	33	33.0
	70--79	17	17.0
Sex	Male	85	85.0
	Female	15	15.0
Level of Education	Illiterate	23	23.0
	Read & write	21	21.0
	Primary school graduate	27	27.0
	Secondary school graduate	7	7.0
	Intermediate school graduate	14	14.0
	High Institute graduate	7	7.0
	University & Higher education	1	1.0
Marital status	Single	2	2.0
	Married	84	84.0
	Divorced	1	1.0
	Widowed	13	13.0
Occupation	Unemployed	30	30.0
	Government employee	23	23.0
	Self-employee	10	10.0
	House wife	18	18.0
	Retired	19	19.0

n= number of samples, F= frequency, %=percentage

This table shows that the high percentage (33%) of patients ages from (60 to 69 years old). Most of them (85.0 %) were male. The education level represents (27%) of CAD were primary school graduate. Most of them (84.0%) were married, and (30.0%) were unemployed.

Table (2) Assessment of pre-test anxiety level value of CAD Patients according to Mean of Scores and Relative Sufficiency

Pretest Items	Absent	mild	Moderate	Severe	Very severe	MS	RS	Score
	no(%)	no(%)	no(%)	no(%)	no(%)			
Lack of concentration	44(44.0)	32(32.0)	21(21.0)	3(3.0)	0(0.0)	0.83	16.6	no anxiety effect
Headache	42(42.0)	17(17.0)	26(26.0)	13(13.0)	2(2.0)	1.16	23.2	no anxiety effect
Insomnia	30	21	23	16	10	1.55	31	no anxiety effect
Muscle spasms	27	22	28	14	9	1.56	31.2	no anxiety effect
Nervousness	20	23	22	31	4	1.58	31.6	no anxiety effect
Trembling	46	24	24	5	1	0.91	18.2	no anxiety effect
Dizziness	42	24	18	13	3	1.11	22.2	no anxiety effect
Numbness	37	21	24	18	0	1.23	24.6	no anxiety effect
Un happiness	25	34	22	14	5	1.40	28	no anxiety effect
Sweating	37(37.0)	20(20.0)	23(23.0)	17	3 (3.0)	1.29	25.8	no anxiety effect
Dry mouth	34	12	31	17	6	1.49	29.8	no anxiety effect
Crying easily	9	8	26	40	17	2.48	49.6	little
Fear	9	29	24	25	13	2.04	40.8	little
Palpitation	36	25	28	10	1	1.15	23	no anxiety effect
Fatigue	33	22	25	18	2	1.34	26.8	no anxiety effect
Restlessness	20	26	28	22	4	1.64	32.8	no anxiety

								effect

Cut off point = 2, No= number, %= percentage, MS=mean of score, RS= relative sufficiency, no effect of anxiety level modification = less than (40), little = (40- 52), mild level = (52.1 – 62.1), moderate level = (64.2 – 76.2), severe level = (76.3 – 88.3), very sever = (88.4 to 100).

Table (2) represents pre-test anxiety level, it shows that the crying easily and fear, have very little relative sufficiency, and all the anxiety level value were record no anxiety effect.

Table (3) Assessment of pre-test anxiety level value of CAD Patients according to Mean of Scores and Relative Sufficiency

Pretest Items	Absent	mild	Moderate	Severe	Very severe	MS	RS	Score
	no(%)	no(%)	no(%)	no(%)	no(%)			
Loss of appetite	14	14	34	27	11	2.07	41.4	] little
Difficult in swallowing	63	13	18	5	1	0.68	13.6	no anxiety effect
Epigastric discomfort	35	31	24	8	2	1.11	22.2	no anxiety effect
nausea	57	24	14	4	1	0.68	13.6	no anxiety effect
Diarrhea	66	19	10	5	0	0.54	10.8	no anxiety effect
Shortness of breathing	38	29	19	13	1	1.10	22	no anxiety effect
Over breathing	37	19	28	15	1	1.24	24.8	no anxiety effect
Sensitivity to nose	68	9	15	8	0	0.63	12.6	no anxiety effect
Nocturnal	22	37	23	15	3	1.40	28	no anxiety effect

Frequency of urination	19	34	22	19	6	1.59	31.8	no anxiety effect
Total	**100 %**							

Cut off point = 2, No= number, %= percentage, MS=mean of score, RS= relative sufficiency, no effect of anxiety level modification = less than (40), little = (40- 52), mild level = (52.1 – 62.1), moderate level = (64.2 – 76.2), severe level = (76.3 – 88.3), very sever = (88.4 to 100).

Table (3) represents anxiety level pretest, it shows that the loss of appetite has very little relative sufficiency, and all the anxiety level value were record no anxiety effect.

Table (4) Assessment of post-test anxiety level value of CAD Patients according to Mean of Scores and Relative Sufficiency

Posttest Items	Absent	mild	Moderate	Severe	Very severe	MS	RS	Score
	no(%)	no(%)	no(%)	no(%)	no(%)			
Lack of consternation	72	22	6	0	0	0.43	6.8	no anxiety effect
Headache	59	28	7	6	0	0.60	12	no anxiety effect
Insomnia	64	15	10	9	2	0.70	14	no anxiety effect
Muscle tension	67	15	9	9	0	0.60	12	no anxiety effect
Nervousness	65	15	8	11	1	0.68	13.4	no anxiety effect
Trembling	74	20	5	1	0	0.33	7.6	no anxiety effect
Dizziness	65	19	10	6	0	0.57	11.4	no anxiety effect
Numbness	68	16	11	4	1	0.54	10.8	no anxiety effect

Un happiness	49	19	16	13	3	1.02	20.4	no anxiety effect
Sweating	76	13	6	4	1	0.41	8.5	no anxiety effect
Dry mouth	45	33	11	11	0	0.88	13.5	no anxiety effect
Crying easily	64	10	13	11	2	0.77	15.5	no anxiety effect
Fear	61	13	16	9	1	0.76	15.2	no anxiety effect
Palpitation	70	18	8	4	0	0.46	9.2	no anxiety effect
Fatigue	64	13	17	6	0	0.65	13	no anxiety effect
Restlessness	64	21	17	13	3	1.06	21.2	no anxiety effect
Total	100 **(%)**							

Cut off point = 2, No= number, %= percentage, MS=mean of score, RS= relative sufficiency, No effect of anxiety level modification = less than (40), little = (40- 52), mild level = (52.1 – 62.1), moderate level = (64.2 – 76.2), severe level = (76.3 – 88.3), very sever = (88.4 to 100).

The findings of this table indicated that the evaluation of relative sufficiency was on effected for post-test anxiety level value.

Table (5) Assessment of post-test anxiety level value of CAD Patients according to Mean of Scores and Relative Sufficiency

Posttest Items	Absent no(%)	Little no(%)	Moderate no(%)	Severe no(%)	Very severe no(%)	MS	RS	Score
Loss of appetite	63	20	9	7	1	0.63	12.6	no anxiety effect
Difficult in swallowing	78	20	2	0	0	0.24	4.8	no anxiety effect
Epigastria discomfort	68	15	15	2	0	0.51	10.5	no anxiety effect

Nausea	56	29	12	3	0	0.62	12.4	no anxiety effect
Diarrhea	86	11	3	0	0	0.17	3.5	no anxiety effect
Shortness of breathing	65	27	6	2	0	0.45	9	no anxiety effect
Over breathing	70	23	3	4	0	0.41	6.4	no anxiety effect
Sensitivity to nose	83	14	2	1	0	0.21	5.8	no anxiety effect
Nocturnal	54	33	10	2	1	0.63	12.5	no anxiety effect
Frequency of urination	52	27	17	4	0	0.73	14.6	no anxiety effect
Total								

Cut off point = 2, No= number, %= percentage, MS=mean of score, RS= relative sufficiency, No effect of anxiety level modification = less than (40), little = (40- 52), mild level = (52.1 – 62.1), moderate level = (64.2 – 76.2), severe level = (76.3 – 88.3), very sever = (88.4 to 100).

The findings of this table indicated that the evaluation of relative sufficiency was on effected for posttest anxiety level value.

Figure .2: Pie Chart for Distribution of Patients according to pre-test anxiety levels Score

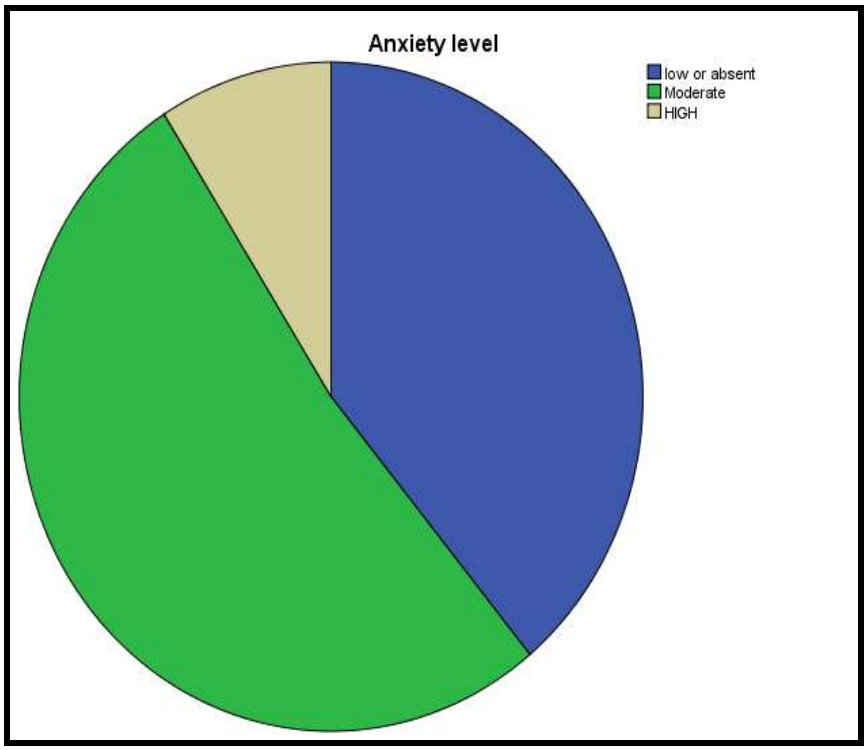
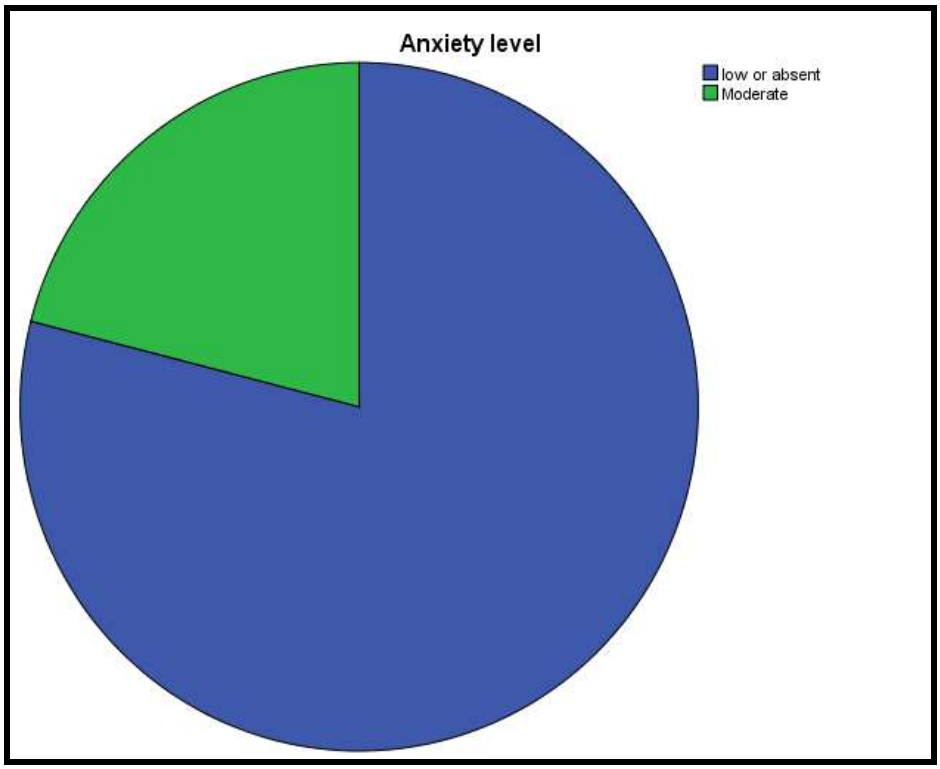


Figure (2) shows the percentage of samples that have low or absent

Level of anxiety	Frequency	Percent %	Valid Percent	Cumulative Percent
low or Absent	39	39.0	39.0	39.0
Moderate	52	52.0	52.0	91.0
High	9	9.0	9.0	100.0
Total	100	100.0	100.0	

pre-test anxiety level were (39 (39%)). The moderate level was (52 (52%)) and the high level were (9 (9%).

Figure .3: Pie Chart for Distribution of Patients according to post-test anxiety levels Score



Level of anxiety	Frequency	Percent %	Valid Percent	Cumulative Percent
low or absent	79	79.0	79.0	79.0
Moderate	21	21.0	21.0	100.0
Total	100	100.0	100.0	

Figure (3) shows the percentage of samples that have low or absent post-test anxiety level were (79 (79%)). The moderate level was (21 (21%)).

DISCUSSION

Undergoing coronary angiography is very stressful experience for many patients. This confirms the usefulness and effectiveness of video information prior to coronary angiography.

Part II: Result of Assessment of pre-test anxiety level value of CAD Patients according to Mean of Scores and Relative Sufficiency

Table 2): analysis was conducted 5 items & 26 sub-items of the questionnaire that evaluated of pre-test anxiety, the anxiety score contains from 5 levels as (absent, mild, moderate. sever, very sever) a result of this study had shown that majority (52%) of the study moderate level. The results of this study is similar to results of the study conducted in Iran, April 2009, which was 6.38 $_{+}$ 3.70 (13).

The patient's anxiety related to little information about the disease and procedure. The level of education, play main role for anxiety experience because most of them have low levels of education.

Part III: result of Assessment of post-test anxiety level value of CAD Patients according to Mean of Scores and Relative Sufficiency

Table 3): analysis was conducted 5 items and 26 sub items of the questionnaire that evaluated of posttest anxiety, the anxiety score contains from 5 levels as (absent, little, moderate, sever, very sever) are result of this study had shown that majority (79%) of the study low or absent level. The results of this study is similar to results of the study conducted in Iran, April 2009, which was 3.30 $_{+}$ 2.67 (13).

Another study in Iran for 100 patients show, the seventy-eight (60.9%) males and fifty (39.1%) females participated in the study. There was a statistically significant reduction in the Anxiety, stress and depression levels of experimental group after video information (P= .000). There was

a statistically significant correlation between sex with anxiety (P= .000) and stress (P= .04) (13). The use of patients' education by informative video is a useful method for decreasing psychological parameters of patients undergoing coronary angiography procedure, the video informatics education its more effective than verbal education because there is a Differences levels of education and patient's knowledge regarded to procedure and disease

CONCLUSIONS:

In accordance with the results of this study, the researcher can conclude the following:

1. Because the patient doesn't know about the coronary angiography procedure that is lead to increase the anxiety for the most patients according to anxiety level score show the moderate level of anxiety is 52%.
2. The current study shows effected video information for these patients undergoing for coronary angiography lead to decrease the level of anxiety for them (moderate anxiety is 21 %).

Recommendations

According to the results of the study, the researcher puts the following recommendations:

1. An education program should be designed to increase information of the patient about anxiety associated with coronary angiography.
2. Prepare educational video for the patients before one hour pre – operation to decrease anxiety.

3. Establishing specialized educational center to provide information and educate patient before coronary angiography procedure.
4. Training and development programs for nursing staff working in An Nasiriya Heart Center about coronary artery disease (causes, types of coronary artery disease, risk factors, prevention methods and how to deal with patients at risk of a heart attack), As well as the establishment of nursing courses to learn how to do rehabilitation for all patients to survive when they want to do cardiac catheterization, to prevent anxiety and depression and possible complications of the heart attacks.

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