A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED INTERVENTIONAL PACKAGE ON KNOWLEDGE AND ANXIETY AMONG CLIENTS UNDERGOING CORONARY ANGIOGRAPHY IN SELECTED HOSPITALS

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Abstract : A study to assess the effectiveness of video assisted interventional package on knowledge and anxiety among clients undergoing coronary angiography in selected hospitals. An evaluative approach with pre test post test control group design was adopted for this study. The researcher evaluate the effectiveness of video assisted interventional package on knowledge and anxiety among clients undergoing coronary angiography in selected hospitals. Purposive sampling was used to select 70 clients from selected hospital .The study concluded that the video assisted interventional package is effective in improving knowledge and reducing the anxiety of clients undergoing elective coronary angiography. The Chi-square value revealed that there is not only significant association between education, occupation and knowledge of clients but also between occupation and anxiety of clients at 0.05 level.

Key words: coronary angiography, video assisted interventional package, knowledge, anxiety.

1. I.INTRODUCTION

Cardiovascular disease is a class of diseases that involve the heart or blood vessels (arteries, capillaries, and veins). It refers to any disease that affects the cardiovascular system, principally cardiac disease, vascular diseases of the brain and kidney, and peripheral arterial disease.The causes of cardiovascular disease are diverse but atherosclerosis and/or hypertension are the most common. Additionally, with aging come a number of physiological and morphological changes that alter cardiovascular function and lead to subsequently increased risk of cardiovascular disease, even in healthy asymptomatic individuals.

Cardiovascular disease, especially coronary artery disease is the most important cause of mortality and morbidity in the world.Now a days, 3.8 million men and 3.4 million women worldwide die each year from coronary artery disease.Death due to coronary heart disease in India rose from 1.17 million in 1991 to 1.59 million in 2000 and are further expected to rise to 2.03 million by 2010.Also it is predicted that cardiovascular diseases will be the largest cause of death and disability in India by 2020.Coronary artery disease in Kerala is premature and malignant resulting in death at a very young age. Approximately 60 percent of Coronary artery disease deaths in men and 40 percent of coronary artery disease deaths in women occur before the age of 65 years .

In order to prevent the increasing burden of coronary artery disease, concerted effort was required to develop modern facilities to treat these patients. The facilities of modern diagnostic methods like coronary angiogram and new proven technique offers symptomatic relief and improve their prognosis.Coronary angiography remains the gold standard for diagnosis of coronary obstructions, allowing for appropriate therapeutic planning and providing important prognostic information. In India over the past five years period (2005 to2009) a total of 20870 patients

underwent coronary procedure both by transfemoral and transradial route over the past five year period. By 2010, 3000000 procedures were performed annually in India. Coronary angiography like other medical invasive procedure can be a stressful and anxiety provoking condition for many patients. Anxiety is a state where a person experiences a sensation of concern, along with activation of the sympathetic system, in response to a vague and unspecified threat. Evidence showed that there was a reduction in anxiety and stress when patients received information about procedure likely to be experienced.

The patients have many expectations, feelings and concerns when they are involved in waiting for an event, especially when this situation deals with something unknown. In situations of hospitalization, medical treatment and diagnostic examinations, the waiting period can become distressful and can lead to stress and anxiety. The nursing guidance, in a systematic way, qualifies and contributes to the actions at any level of healthcare and thus increases the knowledge of the patient regarding their disease and the procedures necessary for their treatment, thereby collaborating with the work of the multidisciplinary team. One of the complicating factors of this process is the time required for its execution, often impossible due to the number of patients to be cared for and guided.

Studies that used the Digital video disc in order to inform patients about cardiac catheterization have presented positive results, especially because they provide patients with greater familiarity with the environment and technical aspects of the procedure. Guidance through audiovisual presentation, clarifying doubts regarding the coronary angiography procedure technique, with language appropriate to the public, was an alternative found in order to decrease anxiety among patients undergoing hemodynamic examination.

Videotapes are valuable resources for assistance in educating patients and caregivers in today's changing health care environment. Videotapes can be effective teaching tools for patients by facilitating knowledge acquisition, reducing anxiety, improving coping skills and enhancing self care behaviors. They incorporate visual and auditory information into a teaching modality that is often easy for individuals to understand and retain.

Anxiety is an individual experience and it is a concept that is difficult to describe with words. Every one experiences anxiety when they are exposed to an unfamiliar situation. No matter how major or minor the procedure is, it tends to raise a certain level of anxiety in every patients. A study was conducted with the objective of comparing the anxiety of cardiac patients candidate for angiography with normal population . The study population included 109 people, 53 cardiac patients referred for angiography and 56 people without cardiac disease. Data were collected by Cattle anxiety scale. In addition, demographic data of the sample population were collected at the same time using another questionnaire. The result showed a significant difference between the anxiety of cardiac patients candidate for angiography and non-cardiac people (P < 0.001). Moreover, the differences between the amount of obvious anxiety and hidden anxiety in the two groups were significant (P <

0.001 for both). The study concluded that the cardiac disease and diagnosis instruments, especially angiography, cause anxiety in patients. Therefore, evaluating this anxiety and applying proper techniques to reduce this anxiety is necessary.

Anxiety levels have a considerable effect on patients during hospitalization. Cardiology departments are characterized by a high turnover of patients and therefore it is mandatory to give clear and exhaustive information routinely in compliance with the legal and deontological requirements. Bearing in mind valid clinical studies on anxiety reduction during preparatory treatment for elective coronarography, in 1985 Herrmann and Kreuzer conducted a study and came to the conclusion that a video is a helpful instrument as an integration to normal care. However, in recent years there has been considerable improvement in the overall tolerability of the treatment, in

the length of hospitalization and in the extent of intra surgical risks. Thus, we considered retesting the effectiveness of such intervention as a current issue.

A study was conducted to assess the effectiveness of informative video on reducing the anxiety level in clients undergoing coronarography. This study used quasi experimental pretest post test control group design. The participants of the study were clients undergoing coronary angiography. The clients in the both study arms receive standard care while the informative video is shown in the treatment group. The Spielberger scale was used to measure the anxiety level

before the procedure. The result showed that 93 clients accepted to take part in this study. The weighed mean difference between the anxiety levels of the treated and controlled group was -8.25 (CI 95%: -12.04/-4.44;P<0.00001).The study concluded that the use of informative video in the Cardiology Department proves to be highly recommended as an instrument to lower the anxiety level and increases significantly the level of satisfaction deriving from the received information.

General knowledge of coronary angiography was suboptimal, but revascularized individuals were more knowledgeable about their respective procedures .A cross-sectional study was conducted on the impact of sociodemographic factors on knowledge of cardiac procedure. A sample of 156 patients were selected for the study. Knowledge levels of coronary angiography varied significantly according to an individual's sociodemographic background. The overall mean score for the eight angiography knowledge questions was 4.6 (SD = 1.7). Scores ranged from 0 (n = 2) to 8 (n =3). Participants who were over 65 years of age, male, married, college educated, and white had higher mean knowledge scores for cardiac catheterizations than their respective counterparts (p < 0.05 for all comparisons). The study concluded that the participants who were employed were more knowledgeable about their procedures as well.

Nursing today is geared towards the holistic approach where all aspects of care such as physical, emotional, social, spiritual are included. Nurses in the 21st century are coming up with the idea of extended roles. While working with the patient, providing comprehensive and holistic care for their early recovery, a nurse has to deliver many kinds of roles, in which one of the most effective is that of a psychologist. In the modern world,where nobody has the time to listen to others or give proper explanation, a nurse providing psychological support to patients during their emotional turmoil is a great relief for them. Therefore, proper explanation prior to the procedure provides better cooperation, physical and emotional stability.

In a quasi- experimental, pretest- posttest design, 128 patients were randomly assigned to either control or
experimental group. Control group received an informative video about coronary angiography procedure as well as pre and post angiography interventions. Using Depression, Anxiety, Stress scale (DASS-21) levels of these variables were measured before and after education. Seventy eight males and fifty 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 statistically significant correlation between sex with anxiety (P=.04). The use of patients' education by informative video is a useful method for decreasing psychological parameters of patients undergoing coronary angiography procedure. Results of the study confirm the usefulness of video information prior to an invasive angiography procedure.

Actually the health personnel should give patients information about what they will have to face on the operation day, such as the characteristics of the operating room and the medical procedures. The patients who are given the systematic instruction will obtain right and sufficient information, and develop a positive attitude. They will also be willing to follow the medical practices. When anxiety diminishes, the negative mental and emotional states such as irritation, aggression, lack of concentration and depression will also reduce. It can help patients to recover

 more rapidly and reduce the length of time of hospital stay since giving them appropriate knowledge can make them change their beliefs and behaviours.

From the above instances and also from the researcher's own experience in Coronary Care Unit, it is obvious that most of the patients posted for coronary angiogram were anxious about the out comings of the procedures and its after care. The major reason for their anxiety is unawareness about the diagnostic procedure .Helping patients to set realistic expectations in terms of procedural outcome and lifestyle modifications is an important part of patient education and health promotion. Hence the investigator found it imperative to develop a video assisted teaching programme for patients undergoing coronary angiography, which would provide a source of knowledge and subsequently these empowered patients will be more involved in self care activities showing better response resulting in better health outcomes.

2. RESERCH METHODOLOGY

The patients admitted for elective coronary angiography were considered for the study.

Effectiveness; Effectiveness refers to the extent to which the video assisted interventional package has achieved the desired effect in improving the knowledge and relieving anxiety of clients undergoing coronary angiography and is measured using a structured knowledge questionnaire and Spielberger state anxiety scale.

Video assisted interventional package; Video assisted interventional package refers to the video showing information regarding coronary angiography and views by the clients undergoing coronary angiography. On the day before undergoing coronary angiography they are also provided a booklet which gives adequate information regarding coronary angiography.

Knowledge; Knowledge refers to the correct response of clients undergoing coronary angiography on items regarding coronary angiography. This is conducted by providing knowledge questionnaire.

Anxiety; Anxiety refers to a sensation of apprehension which the clients undergoing coronary angiography experiences and is measured using state scale of anxiety.

Client; Client refers to persons undergoing coronary angiography during the period of data collection.

Coronary angiography; Coronary angiography refers to a technique of injecting a contrast agent into the vascular system to outline the heart and blood vessels.

2.1. Research approach

The quantitative approach used in the study is an applied form of research that involves finding out how well a specific programme, practice, procedure or policy is working.

2.2. Research design

The research design selected for the study spells out the basic strategies that researchers adopt to develop evidence that is accurate and interpretable. Research design selected for the present study is pre test post test control group design because the effect of intervention can easily identified with the help of this design. The study evaluated the effectiveness of an experimental treatment and two groups of subjects observed before and after its administration.

2.3. Variables under study

The independent variable chosen for this study is video assisted interventional package. The dependent variable in this study is knowledge and anxiety

2.4. Research setting;

The present study was conducted in St. Gregorious cardiovascular centre, Parumala, with advanced medical and surgical facilities.St. Gregorious cardiovascular centre is a 350 bedded multispecialty hospital having well equipped cath labs.

2.5. Population of the study

In this study the accessible population would comprise patients admitted for elective coronary angiogram at St. Gregorious Cardiovascular Centre, Parumala

2.6. Sample

In this study sample comprised of 70 patients admitted for elective coronary angiography in the age group of 40- 80 years.

2.7.   Sampling technique

Purposive sampling was used to select the sample in this study.

2.8.   Tool or Instrument

Base line proforma; The demographic variables included were age, gender, education, occupation, previous knowledge about coronary angiogram and sources of information.

Knowledge assessing questionnaire; A knowledge assessing questionnaire which consisted of 20 items. For each item there was four options and the samples were asked to put a tick mark on the correct answer. If the answer is correct the scoring is one and wrong the scoring is zero. Finally all the scores were added. If the score is <10(poor knowledge),11-15(average),16-20(good.

Spiel Berg's State Trait Anxiety Inventory (STAI) (form Y) ; The State Trait Anxiety Inventory (STAI) was

developed by Spielberger, Gorsuch, and Lushene (1970) to provide reliable, relatively brief, self- report scale for assessing both state and trait anxiety. The State Trait Anxiety Inventory (form Y) is comprised of two separate 20 item self report scale for measuring State anxiety (S-Anxiety) and Trait (T-Anxiety) anxiety.In the present study 20 item S-Anxiety scale was used. In responding to the S-Anxiety scale, samples were instructed to report " how you feel right now, that is at this moment" by rating the intensity of their feeling on a four point scale which includes (1)not at all; (2)somewhat; (3) moderately so; (4) very much so. For each S- Anxiety item, samples were asked to circle the number that best describes the intensity of their present feelings.A response in the "Not at all" column scored 1. "A little" column scored 2. "Some what" column scored 3 and response in the "very much" column was given a score of 4. The negative statements were scored reversely. In the state anxiety the minimum score was 20 and maximum score was 80.

3.   RESULTS

Section 1: Description of sample characteristics

This section has dealt with results of the sample characteristics under study. The sample characteristics under the study included age, gender, education, occupation and source of information. The demographic characteristics of both the experimental and control group were analyzed using descriptive statistics including frequency and percentage distribution.

According to the age wise distribution the highest percent (44.29 percent) was in the age group of 51-60 years. Out of 70, majority were males (57.14 percent). In relation to education 82.86 percent of samples had primary education. In relation to occupation, majority of clients (41.43 percent) belonged to any other group. Regarding the source of information 58.57 percent got information from friends/ relatives.

Description of Knowledge and anxiety of clients undergoing coronary angiogram.

The data presented indicates that majority 61.43 percent have poor knowledge and 38.57 percent have average knowledge on pretest assessment with the mean score of 8.68 and SD was 2.87. It also indicates that 97.14 percent have moderate anxiety, 1.43 percent have mild anxiety and 1.43 percent have severe anxiety with the mean score of 49.6 and SD was 5.34.

Effectiveness of video assisted interventional package on knowledge among clients undergoing coronary angiogram.

TABLE 1. Mean, Mean difference , SD and t-value of post-test knowledge of Experimental and control group

(n=70)

GROUP	MEAN	MEAN DIFFERNCE	SD	't' value	'p' value
EXPERIMENTAL	16.85		1.607		
		7.56		15.34	0.001
CONTROL	9.29		2.45		

$t_{(68)} = 1.99$, $p = 0.001 < 0.05$

The mean post test score of experimental group (16.85) was greater than the mean pre test scores(8.68) with a paired SD of 2.16 . The p= 0.001 less than 0.05 level of significance. So the null hypothesis H_0 is rejected and research hypothesis H_1 is accepted. Hence it is proved that video assisted interventional package is effective in improving the knowledge of experimental group.

The mean post test score of control group (9.29) was almost similar that of mean pre test scores (9.0) with a paired SD of 0.96. The p =0.086 greater than 0.05 level of significance. So the null hypothesis H_0 was accepted and research hypothesis H_2 was rejected. Hence there was no significant difference between the pre-test and post test knowledge of control group.

The mean post test score of experimental group (16.89) was greater than the mean post test scores of control group(9.29). The p value =0.001 less than 0.05 level of significance. So the null hypothesis H_{03} was rejected and research hypothesis H_3 was accepted. Hence it is clear that the video assisted interventional package is effective in improving the knowledge of experimental group.

Effectiveness of video assisted interventional package on anxiety among clients undergoing coronary angiogram

TABLE 2. Mean, Mean difference, Pared SD, and t- value of pre- test and post-text anxiety in the Experimental group.

(n=35)

ANXETY	MEAN	MEAN DIFFERENCE	PAIRED SD	t' value	p' value
Pre-test	49.6				
		12.52	4.46	16.6	0.001
Post-test	37.8				

$t_{(34)} = 1.69$, $p = 0.001 < 0.05$

The mean post test score (37.08) was lesser than the mean pre test scores (49.6) with a paired SD of 4.46 .The p value =0.001 is less than 0.05 level of significance. So the null hypothesis H_{04} was rejected and research hypothesis H_4 was accepted. Hence the video assisted interventional package is effective in reducing the anxiety of the experimental group.

The mean post test score (48.26) was almost similar to the mean pre test scores (47.83) with a paired SD of

2.05 .The p value =0.224 is greater than 0.05 level of significance. So the null hypothesis H_{05} was accepted and research

hypothesis H_5 was rejected. Hence there was no significant difference between the pre-test and post test anxiety score of control group.

The mean post test score of control group (48.26) was greater than the mean post test scores of experimental group (48.26). The p value =0.001 lesser than 0.05 level of significance. So the null hypothesis H_{06} was rejected and research hypothesis H_6 was accepted. Hence the video assisted interventional package is effective in reducing the anxiety of experimental group.

Association between knowledge and selected demographic variables

The association of knowledge and selected demographic variables including age, gender, education, occupation and source of information were computed by chi-square. The chi-square value 3.55 for age (p =0.059>0.05); 0.502 for gender (p=0.4786>0.05); 8.25 for education (p= 0.004<0.05); 13.92 for occupation (p=0.003<0.05);

2.192 for source of information (p=0.3342>0.05). As the p value is less than 0.05 level only for education and occupation, research hypothesis was accepted for education and occupation. But for all other variables null hypothesis was accepted. Hence there is a significant association between knowledge, education and occupation and no significant association between age, gender and source of information.

TABLE 3. Association between knowledge and selected demographic variables like age gender and source fo information

(n=70)

DEMOGRAPHIC VARIABLE	KNOWLEDGE		Chi-square	df	'p' value
	POOR	AVERAGE			
AGE					
41-60 YEARS	22	20	3.55	1	0.059
61-80 YEARS	21	7			
GENDER					
MALE	26	14	0.502	1	0.486
FEMAIL	17	13			
SOURCE OF INFORMATION					
MAGAZINE/ NEWSPAPER	8	8			
FRIENDS/ RELATIVES	25	16	2.192	2	0.3342
HEALTH CARE PROVIDERS	10	3			

non significant.

TABLE 4. Association between knowledge and selected demographic variables like occupation and education

(n=70)

DEMOGRAPHIC VARIABLES	KNOWLEDGE		Chi-square	df	'p' value
	POOR	AVERAGE			
OCCUPATION					
UNEMPLOYED	2	1			
GOVERMENT EMPLOYEE	5	10	13.92	3	0.0030
PRIVATE EMPLOYEE	16	7			
ANY OTHER	20	9			
EDUCATION					
PRIMARY	41	19			
GRADUATE	2	8	8.25	1	0.0040

Association of anxiety and selected demographic variables

The association of anxiety and selected demographic variables including age, gender, education, occupation and source of information were computed by chi-square .The chi-square value 2.59 for age (p =0.858>0.05); 2.745 for gender (p=0.253>0.05); 0.426 for education (p= 0.998>0.05); 26.635 for occupation (p=0.0001<0.05); 1.456 for source of information (p=0.834>0.05). As the p value is less than 0.05 levels only for occupation research hypothesis was accepted for occupation. But for all other variables null hypothesis was accepted. It can be deducted that there is a significant association between anxiety and occupation and no significant association between age, gender, education and source of information.

TABLE 5. Association between anxiety and selected demographic variable like age gender and education

(n=70)

DEMOGRAPHIC VARIABLES	ANXITY			Chi-square	df	'p' value
	MILD	MODERATE	SEVERE			
AGE						
40-50 YEARS	0	11	0			
51-60 YEARS	1	29	1	2.59	6	0.0582
61-70 YEARS	0	23	0			
71-80 YEARS	0	5	0			
GENDER						

MALE	0	40	0	2.745	2	0.2534
FEMALE	1	28	1			
EDUCATION						
PRIMARY	1	56	1			
SECONDARY	0	2	0	0.426	6	0.9986
GRADUATE	0	9	0			
ANY OTHER	0	1	0			

non significant

TABLE 6. Association between anxiety and selected demographic variables like occupation and source of information .

(n=70)

DEMOGRAP HIC VARIABLES	ANXIETY			Chi-square	df	'p' value
	MIND	MODERATE	SEVERE			
OCCUATION						
UNEMPLOY ED	0	2	1			
GOVT. EMPLOYEE	1	14	0	26.353	6	0.00019
PRIVATE EMPLOYEE	0	23	0			
ANY OTHER	0	29	0			
SOURCE OF INFORMTION						
MAGAZINE/ NEWSPAPER	0	16	0			
FRIENDS/ RELATIVES	1	39	1	1.456	4	0.8344
HELTH CARE PROVIDERS	0	13	0			

Correlation between Knowledge & Anxiety

The correlation coefficient –0.458. So there is a negative relation between knowledge and anxiety. The value is significant at 1% level of significance of correlation critical values. The scatter diagram also shows a negative trend which means that as the knowledge increases, anxiety decreases and vice versa.

Discussion

The present study was intended to find the effectiveness of video assisted interventional package on knowledge and anxiety among clients undergoing coronary angiogram. The findings of the study have been discussed under the light of the objectives and the hypothesis of the study as stated earlier in the study. It has also been discussed in the context of other studies with reference to other studies conducted on knowledge and anxiety among clients undergoing coronary angiogram or other invasive procedures.

Discussion of findings with other studies based on objectives Assessment of

knowledge of clients undergoing coronary angiography

In the present study majority 61.43 percent have poor knowledge and 38.57 percent have average knowledge on pretest assessment with the mean score of 8.68 and SD was 2.87.

The mean pre-test score of knowledge was 8.68 and the standard deviation was 2.87 and the mean post test score was 16.85 and standard deviation was 1.63 in experimental group. In the control group the mean pretest score was 9 and standard deviation was 2.18 and the mean post test score was 9.29 and standard deviation was 2.33. The result of the study shows that there is significant effect of video assisted interventional package in improving the knowledge of samples in experimental group.

These findings are supported by a study carried out to investigate patient knowledge level on coronary angiogram procedure. Patients' knowledge about application, benefits, complications of the procedure patients' expectations and way of the information access, have been interrogated through questionnaire, which consisted of annotated and multiple choice questions, respectively. The questionnaire was applied to 150 patients who underwent the procedure for the first time. Results showed a significant low knowledge levels and lack of awareness among patients undergoing coronary angiogram for the first time. The study concluded that it is necessary to educate patients regarding coronary angiogram taking into consideration of their age and educational level.

Another cross-sectional study carried out with patients undergoing their first cardiac catheterization. The sample was composed of 94 patients, divided into an intervention group (45) and a control group (49). A knowledge questionnaire consisting of 12 questions regarding the patients understanding of the procedure were used for data collection. The intervention was a five minute video prepared by the researchers. The result shows that the patients of intervention group had a higher rate of correct answer (74.6± 17.1) compared to the control group (31.6± 18.8) p =0.000.

Assessment of the anxiety of clients undergoing coronary angiography in selected hospitals

In this study the findings have revealed that 97.14 percent have moderate anxiety, 1.43 percent have mild anxiety and 1.43 percent have severe anxiety with the mean score of 49.6 and SD was 5.34.In the experimental group the mean pre test score of anxiety was 49.6 and standard deviation was 7.05 and the mean post test score of anxiety was 37.08 and standard deviation was 2.78. In the control group, the mean pre test score of anxiety was 47.83 and standard deviation was 4.17 and the mean post test score of anxiety was 48.26 and standard deviation was 3.91.These findings are in favour of using video assisted interventional package.

Undergoing coronary angiography is a very stressful experience for many patients. This study confirms the usefulness and effectiveness of video information prior to coronary angiography. High levels of anxiety and stress can have adverse effect on the cardiovascular system.

The result is supported by a cross-sectional descriptive study carried out in Iran in which patients (n=91) and nurses (n=91) opinions about the reasons for anxiety related to coronary angiogram was studied. The tools which were used included, a questionnaire for study and recognition of patient and nurses demographic characteristics, a check list containing thirty probable reasons for patients' anxiety which were filled out by patients and nurses, and a scale for

analysis of the reasons for anxiety which were filled out by patients. The comparison of intensity of anxiety showed that the intensity of patients' anxiety after coronary angiogram is less than before (p= 0.005). The study concluded that because of the different reasons for patients anxiety concerning coronary angiogram, nurses

need to pay more attention to patients anxiety. It is also suggested that an assessment tool be used in order to assess issues relating to patients, level of care and training related to coronary angiogram.

A similar study was conducted to examine the effect of a psychoeducational nursing intervention on patient anxiety during the waiting time for elective coronary angiogram. This was a 2-group randomized controlled trial. Intervention patients received a nurse-delivered, detailed information/education session within 2 weeks of being placed on the waiting list for elective coronary angiogram. Control group patients received usual care. There was a significant difference in anxiety levels and health related quality of life in both groups over the waiting time. On a visual analogue scale, there was a significant difference (P=0.002) between the intervention (4.0+/-2.7) and control (5.2+/-3.0) groups in self-reported anxiety 2 weeks prior to coronary angiogram. The study concluded that psychoeducational intervention, provided at the beginning of the waiting period, may positively affect the experience of waiting.

Another quasi experimental study was conducted to evaluate the effectiveness of video information on anxiety, depression and stress of patients undergoing coronary angiography.128 patients were randomly assigned either to the control or the experimental group. The control group received verbal routine education by nurses and the experimental group received an informative video about coronary angiography. The result shows that there was a statistically significant reduction in the anxiety, stress and depression levels of the experimental group after video information (p = 0.000). The study concluded that video information is effective in reducing the anxiety, depression and stress of patients undergoing coronary angiography.

Evaluate effectiveness of video assisted interventional package on knowledge and anxiety among clients undergoing coronary angiography in selected hospitals.

The mean post test score of experimental group (16.89) was greater than the mean post test scores of control group (9.29). The p value =0.001 less than 0.05 level of significance. So the null hypothesis H_{03} was rejected and research hypothesis H_3 was accepted. Hence it is clear that the video assisted interventional package is effective in improving the knowledge of experimental group.

The mean post test score of control group (48.26) was greater than the mean post test scores of experimental group (48.26). The p value =0.001 less than 0.05 level of significance. So the null hypothesis H_{06} was rejected and research hypothesis H_6 was accepted. Hence the video assisted interventional package is effective in reducing the anxiety of experimental group.

These findings are supported by a randomized controlled clinical trial carried out to assess the impact of providing an educational videotape to patients referred for coronary angiogram compared with standard care. A consecutive of 217 patients referred for coronary angiography were randomized to receive standard care or to receive the videotape in addition to standard care. Results showed that patients who received the videotape were more knowledgeable (mean score 83 vs. 58%; P<0.0001).The concluded that educational video tapes are effective in improving the knowledge of patients referred for coronary angiography. The study recommended the widespread dissemination of this technology to educate the patients.

Association between knowledge and anxiety of clients undergoing coronary angiography with selected demographic variables in selected hospitals

In the present study chi-square analysis reveals that there is not only significant association between education, occupation and knowledge of clients but also between occupation and anxiety of clients. The association of knowledge and anxiety with demographic variables like age, gender and source of information failed to show any significant association.

The result is supported by a cross-sectional study which was conducted to investigate the extent to which sociodemographic factors are associated with knowledge of cardiac procedures in a sample of study participants treated for coronary heart disease. A sample of 156 participants, diverse in race/ethnicity, age, and sex, underwent elective cardiac catheterization for the evaluation of chest pain and/or angina was selected. Participants completed surveys regarding medical history, sociodemographic information, and knowledge of cardiac procedures. Ninety- five of these individuals, with clinically significant CHD, were recommended by their physician to undergo a coronary revascularization procedure [percutaneoustransluminal coronary angioplasty (PTCA) or coronary artery bypass graft (CABG)]. These individuals completed additional knowledge assessment surveys. The result shows that the knowledge levels of coronary angiography varied significantly according to an individual's sociodemographic background. The overall mean score for the eight angiography knowledge questions was 4.6 (SD = 1.7). Scores ranged from 0 (n = 2) to 8 (n = 3). Participants who were over 65 years of age, male, married, college educated, and white had higher mean knowledge scores for cardiac catheterizations than their respective counterparts ($p < 0.05$ for all comparisons). Participants who were employed ($p=0.052$) were more knowledgeable about their procedures as well. The study concluded that educated and employed individuals have more knowledge regarding cardiac procedure.

Conclusion

The present study aimed to find the effectiveness of video assisted interventional package on knowledge and anxiety among clients undergoing coronary angiography. The result shows that there was significant increase in knowledge ($p =0.001<0.05$) and reduction in anxiety ($p=0.001<0.05$) among clients undergoing coronary angiography after video assisted interventional package. So the video assisted interventional package was effective in improving the knowledge and reducing the anxiety of clients undergoing coronary angiography.

Nursing Implication

The Nursing implications of this study included in areas of nursing practice, nursing education, nursing research and nursing Administration.

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