



**ADDIS ABABA UNIVERSITY COLLEGE OF HEALTH SCIENCE,  
SCHOOL OF NURSING AND MIDWIFERY  
CARDIOVASCULAR NURSING**

Patient Expectation about angiography Procedure among cardiac  
patient in Cardiac Center Addis Ababa Ethiopia

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Here i declare that this thesis is representing my own work which has been done for my masters degree in cardiovascular nurse at TASH. It has not been done on this thesis title here in TASH or any other institution for doploma, degree and MSC or for PHD qualification.

I have read all the universities current ethics guidelines, and all the procedures in according to universities committee of nursing and midwifery department.

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## Abbreviations and Acronyms

CABG.....	Coronary Angiography Bypass Grafting
CAD.....	Coronary Artery Disease
CAG.....	Coronary Angiography
Cath lab.....	Catheterization Laboratory
CHF.....	Congestive Heart Failure
CCU.....	Cardiac Care Unit
CVD.....	Cardio Vascular Disease
DM.....	Diabetes Mellitus
EBP.....	Evidence-Based Practice
FMOH.....	Federal Ministry Of Health
MOE.....	Ministry of Education
IHD.....	Ischemic Heart Disease
LDL.....	Low-Density Lipoprotein
MI.....	Myocardial Infarction
NSTEMI.....	Non-ST Elevation Myocardial Infarction
CCE.....	Cardiac Center Ethiopia
UA.....	Unstable Angina
PCR.....	Percutaneous Coronary Revascularizations
TASH.....	TikurAnbesaSpecializedHospital

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## Abstract

**Background.** Patient Expectation in health care continues to increase and this is something that needs to be managed adequately to improve outcomes and decrease liability. Cardiovascular diseases are currently the major cause of mortality and morbidity around the entire world.

**Objective:** The main objective of this study was to assess patient expectations about angiography procedures among angiography patients in Cardiac Center Ethiopia Addis Ababa, Ethiopia.

**Method:** Institutional based qualitative study was conducted using a phenomenological approach from January 2020 to March 2021. The study participant was selected by using a purposive sampling technique. Ten patients who went through angiography procedures are included. The number of study participants was determined based on the level of saturation of ideas. The data will be analyzed using a conventional qualitative content analysis approach tape-recorded for an in-depth interview.

**Major finding:** A total of 35 patients from the cardiac center Ethiopia Cath lab department were approached and 14 of them were volunteer to participate but 10 participants selected. More than half of the participants didn't know what angiography means and whether was it a diagnostic or therapeutic procedure. Half of the respondents think that they were getting treatment rather than a diagnostic test. The majority of participants didn't recognize that their age sex and educational status will affect their understanding of the procedure. Most patients didn't expect coronary angiography procedures as they perceived and there was a gap in their awareness related to the procedure.

### **Conclusion & Recommendation;**

The finding of this study showed a huge information gap and insight into expectations of patients undergoing angiography and it is below the standard. For the management of CCE to train health care providers to fill the information gap among CAG procedures. provide patients with open-ended questionnaires on their expectations and concerns. It is necessary to inform patients who undergo CAG taking into account their understanding and instructive level were recommendations.

**Keyword:** - Coronary angiography, Expectation, qualitative study, coronary angiography.



# 1. Introduction

## 1.1. Background of the Study

The understanding that patients have fundamental restorative information Doctors or Medical caretakers clarify the methods to assist the patients to require the choice made on data and information and effectively take part in their treatment and any method. Satisfactory patient education is critical for the patient's fulfillment after any invasive and non-invasive method. Failure in patients' understanding is additionally a potential security issue(1).

Cardiovascular diseases (CVDs) are currently the major cause of mortality and morbidity around the world., Coronary artery disease (CAD) also the most common cause of death for both genders. According to the world health organization (WHO) in 2016, an estimated 17.9million people died from CAD globally, which accounts for 31% of all deaths. This number is incredibly expanding from time to time and individuals have to have access to getting the service. (2)

American Heart Association (AHA) expressed that; cardiovascular disease is the leading cause of mortality in the United States. It is evaluated that nearly 1.4 million deaths happen in every major ethnic group(3). British Heart Foundation uncovered that CAD accounted for more than 2 million deaths in the UK. Every 7 minutes a Canadian individual dies because of CAD. WHO insights state that nearly 91 individuals die each hour in the world due to heart attack with more incidence in the younger group less than 40 years(1).

CVDs, which are one of the most public health issues in Africa as well as in our country is getting a high priority from time to time. Cardiology has many diagnostic and therapeutic procedures, such as CT scan, MRI, X-rays which are often invasive and require advanced medical equipment and highly trained medical experts. In the medical branch of cardiology, many of these diagnostic and therapeutic procedures are invasive, partly invasive, or non-invasive. Nearly all methods are to be prepared by advanced technologic devices and software. As a result of medical training, physicians may think that the application of these procedures is too simple to be explained or he/she has no time to explain them because of work overload. Although the patients are entitled to receive healthcare detailed information about the diagnostic

procedures and their purposes, the complexity of the procedure and lack of simplified data makes it challenging(5).

Coronary angiography (CAG) is the gold standard diagnostic procedure for the evaluation of CAD. It is an intrusive strategy, which is routinely utilized for the appraisal and conclusion of coronary artery disease (CADs). CAG is done by the inclusion of a catheter to the heart by puncturing the groin location which is called femoral and the catheter goes utilizing the femoral artery. In this procedure, color is infused and the degree and seriousness of stenosis and coronary artery disease evaluated (6).

The WHO report shows 174 million angiogram diagnostic procedures are performed each year, which is 1 out of 60 individuals in the world. The larger part of the patients gets well without any complications. The complication rate shifts from 3% to 16% and the permanent disability rate range from 0.4% to 0.8%(4).

In Ethiopia, the first cardiac hospital in Addis Ababa was founded in May 2007, with a 20-bed capacity and a cardiac catheterization laboratory. Selection of patients for PCI requires careful consideration of the extent of symptoms of ischemic myocardium, the reaction to medical therapy, the likelihood of a fatal or serious morbid outcome in the event of abrupt vessel closure, and expected incidence of restenosis and suitability of the patient for coronary bypass grafting (CABG). With regards to UA/NSTEMI, an introductory invasive strategy is followed for those with hemodynamic instability, electrical instability, headstrong angina, or those first stabilized with medical treatment but remaining at elevated risk for clinical events(7).

## 1.2. Statement of the Problem

Patient Expectation in health care continues to increase and this is something that needs to be managed adequately to improve outcomes and decrease liability. Understanding patient Expectation can increase their satisfaction level.

According to the WHO, cardiovascular disease remains the leading worldwide cause of morbidity and mortality in 2020—Developing countries are affected in a higher proportion than developed countries. Hence, low-income countries are facing a "double burden" of disease that is stretching the already limited resources. In developing countries there are a higher proportion of citizens younger than 65, given the onset of CVD occurring among younger people, it is posing a threat to economic and social development. The rates of death and disability attributable to CVD in the labor force will be much greater than in western nations(8,9)

In Africa, the accessibility of adequate diagnostic procedures is a major constraint. Hospital-based studies have serious limitations to show the true picture of a disease. Besides, the number of patients who can undergo coronary angiography/PCI is further limited by logistical issues. Except for few nongovernmental institutions, there isn't a wide coverage(9).

Approximately 9 % of all deaths in Ethiopia in 2012 were caused by CVD (WHO). Be that as it may, some hospital-based studies and a few community-based types of research have appeared CVD as one of the causes of morbidity and mortality. In a report released in 2001, in an autopsy study done on bodies brought by police to the Medico-legal Division of Menilik II Memorial Hospital, after sudden death, CAD accounted for 70% of those who died due to cardiac causes(10).

In Turkey Totally for 150 patients (102 males and 48 females, mean age:  $57\pm 9.6$  years) who undergo this procedure for the first time were enrolled. The study shows "Which procedure will be applied to you?" was responded by 74% (n=111) as CAG. The question which requires to be described the procedure was responded by 46% (n=69) as "I do not know". "What kind of benefits you expect from CAG?" was responded as "understanding of my cardiovascular disease and diagnosis" by 36% of responders (n=54) and as "to cure my disease and blood vessel opening" by 32% of responders (n=48). "What are the risks of CAG?" was responded to as "I do not know" by 74%

of responders. "What kind of procedure coronary angiography is?" was responded by 58% (n=87) with checking the choice as "it is a diagnostic procedure and there is no therapeutic effect" (1).

There is also a qualitative descriptive explanatory study done on Iranian patient Expectation among angiography procedure & 15 patients participated in this study most of the patients believed that CAG is a therapeutic procedure & their most expectations from the professionals especially from the nurses were mental support before and during the procedure (13).

It is very important for patients to have knowledge before they have undergone any invasive or non-invasive procedure. Most the patient expectation is that they do surgery so they assume that they get treatment rather than diagnostic procedure. "if the patient and families are not properly informed about the risks and the benefit of an imaging procedure, they may make choices that are more harmful rather than beneficial to their health, such as refusing at CT that I needed or demanding a CT that is not justified (Dr maria del)" So conducting a study about knowledge and expectation of patients undergoing coronary angiography procedure can help the patient to prevent further complication and misunderstanding. The purpose of providing information to the patient is to respect and promote participant autonomy and to protect them from harm. In angiography and other invasive procedure written informed consent from the participant before the procedure is a standard and voluntariness and understanding that individual's decision.

In Ethiopia, there is a limitation of formal reports or studies for coronary angiography procedures in relation to patient's expectations among angiography patients. Therefore, the main purpose of this study was to explore patient expectations on coronary Angiography procedures who have undergone for Angiography test. Then to make a continuous follow-up in this area to make difference. In doing so, the researcher tries to address took after inquiring about questions:

1. How are patients' expectation about the Coronary Angiography procedures and process?
2. What thoughts have you had about CAG? What do you know about CAG?
3. Are the patients provided adequate information or explanation about the procedure?

### **1.3 Significance of the Study**

The major significance of the study was to build a better understanding and awareness of patients. This helps to minimize the expectation and understanding gap of patients about the procedure by building awareness on patients. This study also provides evidence-based practice that is used for an educational program to prepare patients who are about to undergo angiography is effective in improving both their knowledge and expectation with the care offered. The demonstrable value of nursing research in improving the quality of nursing care provided to patients before Angiography is equally applicable to all Ethiopian cardiac care settings.

The findings of the study provide baseline data on patient expectations about CAG to the institution & the department to look back on the weakness and give a chance to create a new protocol and to put a ground rule for every patient that having this procedure. The study also helps the cardiac team to provide adequate information for their patients and assessing their Expectations before and after the procedure, the study also can be used as a baseline for other researchers who try to study the expectation of patients who are undergoing coronary angiography. In doing this study, the researcher gains academic knowledge and basic exercise in studying the patients' knowledge gap and expectation of coronary angiography procedure.

## 2. Literature Review

### 2.1. Introduction

Coronary angiography is a method that uses a special dye (contrast material) and X-rays to see how blood flows through the coronary arteries of the heart. Coronary angiography is commonly performed by the percutaneous femoral approach using polyurethane catheters. The catheters are guided over a guidewire through the distal aortic curve to the coronary ostium. The guidewire is pulled back and the catheter will be filled with contrast medium and pictures are recorded to ensure that all coronary segments are seen. It is the technique used to enlarge the internal diameter of the diseased vessel by applying balloon pressure to an area of stenosis. When inserted through the radial or femoral artery it reaches the aortic root and images are recorded. The indication for coronary angiography incorporates suspected coronary artery disease or known coronary artery disease with stable patterns, acute coronary syndrome, unstable angina, Non-ST elevated myocardial infarction, and ST elevated myocardial infarction with the unstable pattern, congestive cardiac failure, preoperative evaluation for non-cardiac surgery, and structural or valvular heart disease(11).

The indication of coronary Angiography is stable angina, acute coronary syndrome (ACS) and ST-elevation myocardial infarction (STEMI), abnormal stress test, new-onset, and unexplained heart failure, and persistent chest pain despite optimal medical therapy. There is no specific contraindication to performing coronary angiography; the related risks can contribute to cardiac and non-cardiac complications. The patient's general history like renal insufficiency, uncontrolled diabetes mellitus, and other serious illness can increase the risk of complication. The major complication related to CAG is less than 2% of the population. Directly related to the procedure there is no side effect at all but related to general anesthesia, contrast, prophylaxis treatment, and others.

Kalyani had done a qualitative study on Iranian patient's expectations about coronary angiography. The ponder was to investigate the Iranian patient's expectation regarding coronary angiography. The study plan was a graphic exploratory subjective consider done between 2011 and 2012 with a purposive test of 15 patients counting 7 men and 8 ladies. The data were collected using a semi-structured interview method. The data analyzed using a qualitative content analysis approach. The study findings revealed that the patient expectation regarding

coronary angiography was categorized `were from the treatment team, need for preparation of angiography, education, and training. The study concluded that the nursing care pointed the planning go to the center on patient instruction and arrangement, which can advance the quality of care and satisfaction of patients. (12)

## **2.2. Psychological factor**

A study conducted a concede to recognize pre-procedural assents and uneasiness evaluation in patients experiencing coronary angiography and PCI. The ponder was done by overweighing strategy utilize Spiel Berger's state anxiety inventory (STAI) and confront uneasiness scale. The belief discovers uncovered that anxiety was more common for the foremost part in men with an age of 66.73 ( $p=0.001$ ). They concluded that patients experiencing coronary angiogram and PCI have moderate uneasiness sometime before the procedure(15,17).

Other study also conducted a consider to evaluate the calculate anticipating patients distress after coronary angiography. The reason for the consider was to distinguish the variables that foresee inconvenience after coronary angiogram among hospitalized patients. The think about was done with a test measure of 203 patient's and the result uncovered that pre encounter decrease the anxiety level and nurse ought to teach the patient's to diminish their physical and emotional inconvenience (13,15).

A ponder had done to clarify the patient's encounter aimed and after coronary angiography. The study approach utilize was a qualitative content examination, with a test measure of 14 patients. Information was collected by interview strategy beneath 4 primary categories counting emotional considerations, real sensation, nursing mediation, and individual procedures. The think about uncovered that all patients commented on staff conduct and specified that nursing activities during coronary angiogram have got incredible significance (16).

A study to assess the impact of early mobilization for patients experiences coronary angiography, centering on lessening vascular complications and back torment. A randomized control trial with 104 tests experiencing coronary angiogram was chosen. The patient's inconvenience was measured at the self-perceived review of torment. The discoveries revealed that nearness of

hematoma more than 5 cm was 5.8% in test gather when compared to control group it was 3.8%. So they concluded that early ambulation after coronary angiogram is secure without changing the event of vascular complications(17).

A study conducted a consideration to get the encounters of patients planning for angioplasty. Eight men and three ladies were met 1 month after release from the clinic. Verbatim transcripts were analyzed for major subjects utilizing the qualitative strategies of grounded hypothesis. Members depicted working through an issue tacking handle in reaction to the seen wellbeing risk related to experiencing angioplasty. In step one, the problem was identified. In step two, coping responses were taken to try and solve the problem. In step three, the results of the coping responses were appraised or evaluated. The two-issue distinguished were processing chest torment and uneasiness related to fear of the obscure. The adapting reactions started included obtaining information of the angiography, certainly, within the ability of the specialist, bolster from family and giving up mentally, within the last examination of the adapting reactions, the members chose to either go ahead with or delay the angioplasty strategy. The comes about to this ponder demonstrate that the planning for angioplasty speaks to a period of alteration that may be uneasiness inciting. Participants' encounter gives modern information of the concerns and challenges confronted when experiencing such an obstructive method in a brief remain environment. The comes about clearly highlight that psychological angles of Nursing care are a basic component of a nursing home for angioplasty patients(18).

### **2.3. Socio-demographic Factor**

A study to assess the angiographic indicators of vascular complications among women experiencing angiography. Thirty consecutive female patients with major bleeding aimed the year 2004 – 2009 in a single middle were chosen. Their age and strategy were arranging with 90 controls with no vascular bleeding. The discoveries uncovered that ladies with littler femoral arteries are at a higher hazard for developing bleeding and vascular complications than ladies with larger arteries ( $p < 0.09$ ).

The patient knowledge and expectation related with their level of crucial instruction patients with education have more essential data and wan than illiterate. Received knowledge related to age, sex, and level of principal instruction. Male patient's received more knowledge than females. The

more prepared patients as well have a great understanding and knowledge than more youthful patients. Younger patients have gotten less knowledge overall and, on the bio, -physiological measurement than any other bunch of patients. More youthful patients as well showed up more noticeable contrasts than older patients between knowledge expectations and knowledge received on the entire total scale and on the bio-physiological estimation (19).

#### **2.4. Clinical Factor**

Enzenhofer conducted a consider to compare the use and effectiveness of computer-based visualization as opposed to standardized conversation for providing patients with information of forthcoming procedures. (Coronary catheters or endoscopic procedures). A randomized trial with 56 participants allocated in two different groups. Visualization Group (standardized information supported by a tool for displaying two - dimensional pictures to explain medical facts as well as an informative leaflet) or Control group (standardized information and informative leaflet only). Detailed information was given about the indication, the probable complications, and the details of the forthcoming procedures. The main outcome factors were patient satisfaction with the physician-patient conversation, patients acquired knowledge, and duration of the intervention as described above. The author finally concluded that patients of the visualization group were more satisfied with the conversation and were statistically more significant.No differences could be found due to differing age or educational levels (20).

A study to understand the effectiveness of patient education in risk factor management in patients with coronary artery disease and to assess the contribution of nursing to this program. In 3 Dutch hospitals consecutive patients were distinguished after a first coronary artery bypass graft, a first PTCA, or hospital admission for acute myocardial infarction or ischemia (n=357). Information was collected through patient interviews at slight 6 months after hospital affirmation and at last, the ponder concluded that numerous patients with built-up coronary heart disease and cardiovascular risk factors do not remember ever having received information about management of risk factors. Clearly, there is a considerable potential to improve forward experts' compliance to rules on hazard management, including those on patient education, and the perceived contribution of nurses to risk factor management is small compared to that of Doctors and other caregivers(20).

Amodeo R conducted a study to understand the effectiveness of an education program led by nurses for patients admitted to hospitals with coronary heart diseases (CHD). The nurses of the cardiology division of the Desio Hospital have held normal wellbeing education meetings for inpatients with CHD and their relatives. The topics covered are the nature of CHD, its hazard variables, and the anticipation of repeats. Some time and before the assembly a survey was given to investigate the level of knowledge from May 2003 to September 2004, 201 patients attended the meeting. The majority were attended with the acute coronary syndrome. The researcher, at last, concluded that this assembly organized by the nurses for patients admitted for CHD moves forward their knowledge of their illness and awareness of the benefits of correct lifestyles to prevent worsening of their disease(20).

A think about to assess whether a pre-procedural education/counseling program can progress knowledge and the reduction of coronary risk factors in 130 patients (65 experimental; 65 comparisons) approximately four months after having percutaneous transluminal coronary angioplasty (PTCA). Knowledge and physical activity levels ( $p=0.00$ ) improved for both groups from pre-PTCA to the follow-up. Further, the experimental group showed a favorable change in total cholesterol level ( $p=0.02$ ) at follow-up. That participation in the intervention did not improve knowledge or risk factor prevalence may reflect the adequacy of standard ward care, the impact of factors not under the control of the study, or the overall experience of PTCA. Limitations of educational programs without follow-up sessions are discussed and alternate rehabilitation approaches are recommended(21).

A study undertook a qualitative research study of 45 members in an endeavor to describe the angioplasty experience from the patients' viewpoint. Focus groups were held consisting of small numbers of patients who had experience coronary angioplasty in the previous 3-18 months. Interviews were tape-recorded and data analysis was conducted utilizing a constant comparative method. Positive themes identified in this study included contentment with comfort measures, satisfaction with supportive care, and trust in medical competence. The most frequent theme was satisfaction with clinic care before, during, and after the PTCA. Supportive care before the procedure centered on education and emotional support, while some participants commented on the literature and videos used for education. Negative themes included anger over unmet needs for comfort or support, feeling dehumanized, and frustration with lack of control in decision

making. Negative feelings ranged from general disgust to the worst experience possible. Several commented on feeling dehumanized and felt like they were treated in a disrespectful, assembly-line fashion. These results highlighted the perceptions and needs of angioplasty patients and pointed out the necessity for nurses to play a greater role in providing patients with the emotional support and information required to meet their needs. This consideration has been instrumental in enlightening the needs of angioplasty patients in hospitals (19).

## **2.5. Knowledge on angiography procedure**

Mehmet Bostan, and Engin Bozkurt were also done a qualitative study on Patient's knowledge level and expectations about coronary angiography. The point of this study was to explore patient education level on coronary angiography procedure in two distinctive ranges of turkey. The study conducted in 2011 the examiner was conducted on 150 patients 102 male and 48 females who experiences this procedure for the primary time. And it concludes it is essential to illuminate patients who experience CAG taking into the thought of their age and instructive level with the unused strategies. (1).

Holmboe conducted a think about to evaluate knowledge of patients' approximately reasons for elective Percutaneous coronary revascularizations (PCR), persistent desires of the benefits of PCR, and their understanding of the dangers related with PCR among patients undergoing them, to begin with, elective PCR. The creator hypothesized that the patients will overestimate the benefits and think little of the dangers related to PCR. A planned, semi-organized survey was arranged and chosen patients experiencing, to begin with, the time elective PCR. 52 sequential patients with a cruel age of 64.3 years (range39-87) completed the meet. And the creator at long last the larger part of the patients had unlikely desires almost the long term benefits of elective PCR and was not mindful of the potential dangers, indeed in spite of the fact that they communicated a solid in taking an interest within the choice have PCR. More work is required to characterized the ideal procedure to teach patients approximately the benefit the danger of elective PCR, and whether such instruction will influence quiet choice making(12,22).

## **2.6. Justification**

In our country, there are very limited researches conducted on the patient expectation among angiography procedure. Having knowledge about patient understanding is very important and helpful for cardiac nurses in their daily base practice. Understanding patient expectation and knowledge support Nurses for better decisions and manage all the gaps for effective evidence-based practice (EBP) which helps to give quality care and to avoid misunderstanding of the procedure, psychological problem and maintaining patient satisfaction and trust. So, the purpose of this study is to assess Angiography patient expectations among angiography procedures. This study also contributes for the institute, department, and nurses to work on patients and fill the gap in the area.



### **3. The objective of the Study**

#### **3.1. General objective**

The general objective of this study was to assess patient expectations about coronary angiography procedures among cardiac patients at cardiac center Ethiopia, Addis Ababa Ethiopia, 2021.

#### **3.2. Specific objectives**

- To explore the Expectation of patients about Coronary Angiography procedures.
- To assess their Awareness regarding angiography procedure.

### 3.3. Conceptual framework

This conceptual framework is showing for assessment Expectation about CAG procedure among immediately before post angiography patient. Incorrect understanding and lack of consistency between patients and reality ultimately lead to patients' psychological problems. Identifying patient expectation about angiography procedure help to have a better encounter with the procedure as well as more satisfaction and lesser hospital stay (4).

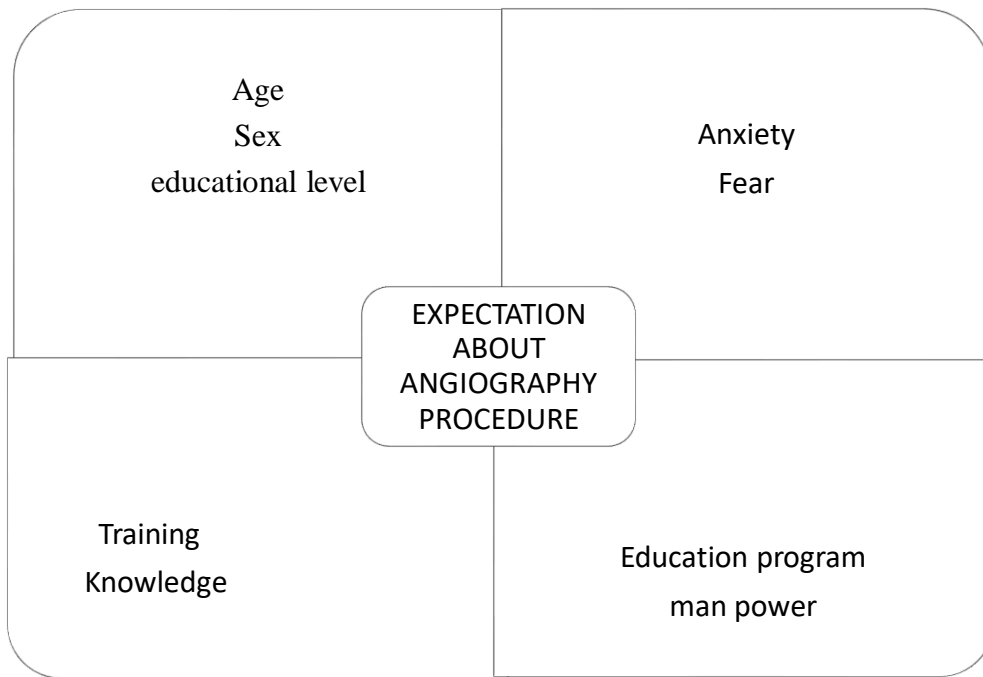


Figure 1: Conceptual framework on the patient expectation about angiography Procedure among patients in the cardiac center in Addis Ababa Ethiopia (4)

## 4. Materials and Methods

### 4.1. Study Site and Time Frame

This study was conducted in cardiac center Ethiopia hospital which is found in Addis Ababa the capital city of Ethiopia. Cardiac Center Ethiopia (CCE) was conceived in Dr. Belay Abegaz's. It was established in 1989 inside Zewditu Memorial Hospital as a children's heart fund starting from 2009 built a new building and rename Cardiac Center Ethiopia inside TASH with a total of 50 beds. It is a non-governmental and non-profitable humanitarian organization. CCE is provided heart surgery and interventional and diagnostic procedure. It is the largest and best cardiac center in the country (23). There are currently ten cardiac specialists, more than five medical doctors, 50 nurses working at the unit in cardiac center Ethiopia aspires to become a center of excellence in the diagnostic procedure, treatment, and care of patients with cardiac problems, with the support of Ethiopia's governmental institutions, non-governmental organizations and international partners. This study was conducted from April to June 2021.

### 4.2. Study Design

The research design for this study was an institutional-based qualitative design.

#### **Source population: -**

Patients who have angiography procedure in cardiac center Ethiopia Addis Ababa

#### **Study Population**

A cardiac patient who has an angiography procedure in cardiac center Ethiopia admitted to the ward, ICU, or discharged during the data collection period less than six months.

#### **Sample Population**

The sample populations were randomly selected patients who were going to have/ had angiography procedures in the cardiac center wards and cardiac ICU

### 4.3. Eligibility Criteria

**Inclusion criteria:** - All illegible Angiography in CCE who were willing to participate and available during the study period were included in the study.

**Exclusion criteria:** - patients with interventional CAG procedures, seriously ill Patients during the data collection period in the selected hospital are excluded from the study.

### 4.4. Research Approach

A qualitative study research design was employed for this study. The rationale behind using the qualitative research method was that qualitative research is well suited for understanding phenomena within their context, discovering links among concepts and behaviors. A qualitative research method is appropriate for this study because the aim is to understand human experiences, namely what it is like patients' perception in relation to angiography procedure and research provides an insight into how patients perceive and their experience. Human experiences are not easy to quantify or assign numerically therefore a qualitative approach is appropriate. Evidence from more than one case is often considered to be stronger than evidence from a single case (24).

### 4.5. Data Collection Instruments

The researcher uses an in-depth interview for the purpose of collecting primary data from participants. The inclusion of participants was determined by using a purposive sampling method.

In order to assess the patient experience about CAG, the data was collected from patients who have been undergone CAG by face-to-face interview.

The interview question includes questions about patient expectation level about CAG, fear, and anxiety-related with the CAG process before and after the procedure, pre-procedural preparations needed complications, etc.

#### **4.6. Sampling technique**

The target hospital was selected purposively since most of the cardiac services are provided and sufficient numbers of cardiac patients are found and simple to the complicated case of cardiac surgery and angiography diagnostic and therapeutic procedure are done for this qualitative research. The hospital is found inside TASH since 2009.

**Sample size:** - All male and female patients before and after the procedures were selected purposively. Even though the number of study participants was determined by the level of saturation which was the point in which we cannot get any new information, the estimated study participant were 10 patients. Continued to a selection of patient participants until we reached thematic saturation of identified themes, with interview Findings analyzed throughout the data collection process.

#### **4.7. Data Collection Process**

The patients receive information about the overall objective of the study. The interview was done by tape-recorded with close ended questions in order to investigate patient expectation level. Patients were selected with the assistant of the nurse working in the unit. The interview takes place in a quiet private place. Patients who are willing to participate in the study were selected for the interview and the researcher notifies them of the date and time where the interview is going to be held. The in-depth interview guideline source and measured from picker patient experience(27).

#### **Data Analysis and Presentation Method**

As soon as data collection was accomplished, the data was analyzed by using a conventional qualitative content analysis approach. Therefore, the researcher categorizes, orders, and summarizes the data to an intelligible and interpretable form in order to come up with the findings, conclusions, and recommendations of the study.

#### **4.8. Ethical Consideration**

Ethical clearance obtained from institutional review board research ethical committee of School of Nursing And Midwifery, Addis Ababa University. Consent from the medical director of the

Hospital obtained and through voluntary written and verbal consent obtained from participants themselves after appropriate information given such as; "the purpose and duration of the study, a procedure in the study, the right to withdraw from the study, the right to ask questions, and the potential risks and benefits of the study". The respondents were informed in detail about the purpose of the research, interview procedures, and the use of tape recording during the interview. The researcher took the utmost care to ensure the privacy, confidentiality, and anonymity of participants. To maintain confidentiality, the participants' real names were not used; rather code names were given to participants throughout the research processes. A tape recording was used only when the participants' consent was ensured. The recorded tapes and transcriptions were kept in a locked place until the study was completed and approved by the school of nursing and midwifery. Besides, participants were informed that they can take a break, skip questions, and even withdraw at any time during the interview.

### **Operational definition**

**Patient Expectation:** - understanding and measuring patient expectations of health care is central to improving patient satisfaction and delivering patient-centered care. However, most empiric research in this field has focused on measuring patient Expectations among Angiography procedures (26).

**Angiography Procedure:** - is the gold standard diagnostic procedure for the evaluation of CAD. It is an intrusive strategy, which is routinely utilized for the appraisal and conclusion of coronary artery disease (CADs). CAG is done by the inclusion of a catheter to the heart by puncturing the groin location which is called femoral and the catheter goes by means of the femoral artery. In this procedure, color is infused and the degree and seriousness of stenosis of the coronary artery evaluated (6).

**Cardiac patient:-** cardiovascular disease are the leading cause of mortality in the United States. And evaluated that nearly 1.4 million deaths happen in every major ethnic group(3). British Heart Foundation uncovered that CAD accounted for more than 2 million deaths in the UK. Every 7 minutes a Canadian individual dies because of CAD. WHO insights state that nearly 91 individuals die each hour in the world due to heart attack with more incidence in the younger group less than 40 years(1).

**Angiography procedure among cardiac patients:** -during the angiogram procedure a dye that is visible by an x-ray machine is injected into blood vessels of the heart. The machine takes an image to look at blood vessels it is recommended for patients who have the sign of myocardial infarction, unstable angina, a person who born with congenital heart disease chest injury, a heart valve problem, and many more medical reasons

### **Data Quality Control**

Careful modification of the data collection tool according to Ethiopian situation, training of data collectors frequent checking of data collection procedures by the principal investigator for coding and data cleaning and qualify the data. To do so all the above-stated activities had been conducted during the data collection.

**Trained data collectors:** Data was collected by trained professional one MSC and one note-taker with regular supervision, immediate feedback, spot-checking, and reviewing each of the completed questionnaires in each day of data collection and resulted in quality data from each hospital.

**Supervision and quality check:** During the actual data collection, the principal investigator supervised the data collectors to support and undertake random checks if there are clarity questions from the data collectors. On each day of data collection, the principal investigator was to undertake a checkup of the data collection interview forms whether the interview is completed perfectly or not. If there is a data collection error, a discussion was held with data collectors and they will be advised to undertake complete data collection the next day.

**Consistency of Interview tools:** interview questions were prepared in English and translated into Amharic language and then back to English to keep its consistency and avoid the language barrier of the data collectors and respondents. The data collectors used Amharic to ask the interviewee for ease of communication but if the patient cannot speak Amharic, translators for the patients' language will be assigned.

### **Data Processing and Analysis**

Data analysis was done simultaneously with data collection since the design of the research is qualitative. To do this, an in-depth interview was recorded and written down on paper and then translated into English. Furthermore during the interview field notes were taken concerning the participant's gestures, tones, and other body language. In doing so, the researcher followed the thematic content analysis method which involves transcription, translation, coding, and

categorization, and develops themes and interpretations the researcher intended to do it manually. The thematic analysis focuses on the coding of quality data, producing clusters of text with similar meaning often searching for the fundamental them and capturing the real meaning of the phenomena under exploration

#### **4.9. Limitation of the study**

A limited research study was conducted in the study area within the given title to compare with a similar sociodemographic status of the population.

#### **4.10. Strength of the study**

Since the study is based on human experience that is obtained is powerful and sometimes more compelling than quantitative data. And provide more detailed information to explain the complex issue

## **5. Result and discussion**

The main aim of this study was to assess the level of patient expectation about coronary angiography procedures among cardiac patients at CCE. The primary data for this study were collected by using an in-depth interview from 10 participants who were undergoing and have been through CAG diagnosis in CCE hospital. The data collected was edited, organized, and analyzed according to the objective of this study.

### **5.1 Description of Study Participants**

The study participants were 10 patients who were undergoing cardiac angiography recently in CCE Hospital. From the total participants, 7 of the respondents are males and the remaining 3 of the participants were females. With a regard to age, most of the respondents were adults above 40 years old. 9 of the respondent were from Addis Ababa and the other is from the countryside. Eight of the participant is married and 6 of the total respondents are illiterate.

### **5.2 Analysis of main interview questions**

The interviews were held in CCE Hospital. Participants were requested to answer 8 main questions with a detailed clarification. The questions covered cardiac health problems, the meaning, and the procedure of angiography. Patients' expectations and other related issues are directly associated with the main research questions stated above.

According to the above research questions and patient experience measured from picker patient experience(27). In doing so, the interview questions include questions about patients' recent admission to CCE hospital, patients' knowledge level about angiography, anxiety, and stress of patients, communication of information about CAG, side effects of CAG, and so on.

#### **5.2.1 Cardiac Health Problem**

The participants were asked, What was it like for you having the cardiac health problem and being hospitalized with a heart problem

The majority of the respondents are very scared because they have a cardiac health problem and being hospitalized with a heart problem more than half of the participants came to CCE hospital because they can't afford the payment in private hospitals. Most participants recognize their heart disease recently (within the last 1-3 years). The remaining three participants have been suffering from heart problems for almost four years and above.

**DW1** said that the “first cardiac case has occurred 6 years ago when he fainted on the street and was taken to the hospital. The doctors in the hospital mentioned that he has a cardiac problem. Since then, he has been treated in several private and governmental hospitals. However, by the day, the cost of the private hospitals goes on increasing and become unfordable to him, so he decided to come to CCE hospital”.

**DW6** said “heart disease is a critical situation, which needs special treatment and a scary thing for the patient because it's a life and death situation. However, it's what God brought to me so I hold my faith and praise to God to be healed soon”.

### 5.2.2, Coronary Angiography and its procedure

The researcher asked the participants what kind of procedures are done for them. This was followed by two other questions: i) whether they heard about CAG before and ii) explain what CAG means and the procedure.

According to the analysis of the interview, six of the participants don't know what kind of diagnosis procedure has been done for them. Less than half of the participants know that they have been through CAG.

According to the analysis of this study, one of respondents have to try to explain the procedures and process of CAG and why they needed this procedure. From the remaining participants' one knows angiography and he tried to explain the procedure by not correct. He thinks CAG is surgery. More than half of the respondents don't know what angiography is all about. They even can't explain the procedure and why they need to have the procedure.

**DW1** “he has no idea what angiography means. He thinks that angiography is a cardiac disease treatment procedure or a surgery process that will give him a treatment or relief from the pain he has been suffering.”

**DW3** “ he says Angiography is a medical word and it's even difficult to pronounce the word and due to my week educational background I am not good at English so there is no way that I will know what angiography means and I don't want to ask about the word that I can't even pronounce”.

**DW2**, “he knows what angiography means, the angiography process and what its use. He explained that coronary angiography is a diagnostic process that is done in order to know specific heart-related problems and which part is actually affected. He also mentioned the

procedure is employed to know what to do to treat the disease and heal the patient by sending tubes into our blood vessels through the screen”

Six of the respondent has no idea about CAG and the procedure about it entails. The majority of the respondents think that angiography is a medical procedure used to treat their heart diseases. Therefore, there is a gap regarding patient knowledge about the meaning and procedure of CAG.

### **5.2.3 Patient Knowledge and Information Provided by Health Workers**

The participants of the study were asked if they know about CAG and to explain what kind of procedure coronary angiography is

According to the response of participants, seven of them don't know about angiography. However, three of the participants know about CAG and they tried to explain what kind of procedure CAG involves. One participant knows the word angiography and he tried to explain the procedure but he was not able to explain it correctly as he thinks that angiography is a process of treating his heart problem.

The majority of participants said they get information about CAG from their doctors. The remaining two participants get information about CAG from the internet and asking their friends and relatives. More than half of respondents said they received adequate information regarding the procedure. The remaining four participants said they didn't receive adequate information regarding the procedure.

**DW1** explained that “he didn't know anything about cardiac disease or angiography meaning or process. The doctors or nurses don't mention or explain angiography, the process, and what he will go through in the process. Therefore, he didn't think he has received adequate information regarding the angiography procedure”.

One of participants have known what angiography is and what it is used for gathering the information from the internet and asking friends who have been undergoing angiography and when the doctors mentioned that they need the procedure.

**DW2** responded that “he came to know about angiography by asking his friends and patient who has been undergoing through angiography and he also searched it in over the internet to explore more about angiography. In doing so, he collected enough information about angiography meaning, procedure, how it's employed, and how the result of the angiography helps the doctor to treat the disease fast and accurately”

**DW 7** said that “The doctor and nurses gave me adequate information. And angiography helped me thus I used to feel tired before the angiography but after, my issue or case was resolved. I was thinking angiography was a complicated process”

As it's mentioned above six of the respondents don't know about angiography meaning and procedure. In addition, the rest of the participants did not try to explore angiography because they think it is medical jargon and they can't understand the term or procedures.

This is partly because of their poor educational background and lack of communication skills.

#### **5.2.4, Anxiety, stress and Related problems**

The next question the researcher asked the participants, whether having this procedure has affected/ will affect them or not and what outcome do they expect from the procedure. As an extension of the same question participants were also requested to share their thoughts on how this procedure helps them. Their expectation from CAG, (especially benefit they expected from CAG) the risks or side effects of CAG

Seven of the respondents don't know what the angiography procedure is used for. These participants have a general feeling that angiography procedure is used to treat the disease rather than a diagnosis process and they have stressful times, have fear, and are afraid before the procedure.

Half of the participants said they expected to get treatment from the angiography procedure and from the half of participants less than one-fourth of the respondent said they are feeling better after the procedure because they thought they get treatment from the angiography.

Seven of the participants think that they benefited from the angiography procedure. While remaining three participants think that they didn't get benefit from the procedure because they have not felt better after the procedure.

Eight of respondents said that they didn't recognize any side effects after the CAG procedure has been conducted for them. However, less than one-fourth of the participants experienced some side effects like feeling weak, lack of sleep at night, and inability to walk the long journey.

Seven of them consider the CAG procedure as surgery and expected pain and associated risk.

**DW1** said that “he didn't know that the angiography process can have mental and psychological impact on him because he was thinking angiography is a treatment which will give him relief from what he has been suffering. However, after he has been taking the treatment (what he was thinking it was) the pain is still coming and he thinks the treatment is not

working. The patient said that after the angiography process he has some side effects such as he can't walk as he used walking before when he walks for the longer period his hearts beat a lot and he feels weak and fails to walk further”.

**DW2** thinks “when the angiography procedure conducted on him, he would ensure pain but when he went through the angiography procedure it was as he expected. It's not that painful and complicated.

He also stated that collecting sufficient information about angiography will have a huge impact on the patient mentality because the patient will know what he/she is going to get from the angiography process and he/she will expect the exact result from the diagnosis rather than getting treatment from it. In addition, the patient will be able to know what the doctors are doing”.

**DW 10** The patient said that “i was so afraid before the procedure because i was thinking i would die but after the procedure done i became healthy”

Four of the respondents don't think the procedure affects them positively or negatively. Some participants were thinking that CAG will help them treat or heal their heart disease directly after the procedure is done. Less than one-fourth of the participants said that the procedure helps them to identify the exact heart problem they had and they said that they have benefited from the procedure.

#### **5.2.5, Benefits of the procedure**

The participants were asked if is there anything they find themself thinking about/wondering about the CAG

According to the analysis, more than half of the respondents were so afraid because they don't know the angiography process and half of them conclude that angiography is a surgery. However, two participants know what angiography is and how the procedure will affect them. Eight of participants have been wondering about the CAG. Some participants have been wondering because they don't know what they will go through and because it's their first time in this kind of process.

**DW1** said that “he didn't hear or hasn't searched for the angiography meaning or process before and he was thinking that he is having surgery. Especially when the doctor gave him a

document to sign that confirms his willingness to take part in the angiography procedure, he became so afraid and tempted to change his mind but the doctor convinced him by explaining what angiography is all about and that there is nothing worry about”.

**DW2** said “he knows about the angiography process so he was not surprised about it. He knows angiography is a diagnosis process used to identify the exact heart disease problems. Then when the angiography was performed the patient perceives what he expected”.

**DW4** “he got adequate (sufficient) information about angiography. He gathered information from the internet and by asking friends and families. In addition, he responded that the doctor gave him adequate information about angiography. Moreover, he asked a friend who has been gone through the same angiography process and his friend explained the process in detail and helped him not to worry”.

Nine of respondents didn't know anything about CAG so they were wondering about CAG whether it helps them to treat the disease or not. Some say CAG is a surgery to treat or heal the diseased part. However, one-fourth of the participants know what angiography procedure is all about and they got what they have expected.

#### **5.2.6, Patient Awareness related to the procedure**

The participants were asked if they have fears about having CAG. They were also requested to explain what was their greatest worry or fears about having the procedure and why do they think they have those worries?

According to the analysis, most respondents have several kinds of fears about the CAG procedure. The common fear most participants shared was the paper. They were required to sign, which includes giving their consent to participate in the CAG process and if something happens or went wrong in the procedure, they are willingly taking the risk associated with the procedure so that they can't sue the hospital.

Seven participants have been afraid when they are going through the CAG process. The remaining two participants don't fear or wondering about the CAG because they gather adequate information about the procedure. They even don't know any relatives or friends who had this procedure before. The remaining participants said they had friends who had this procedure in CCE before.

From the total respondent, half of them had been worried and afraid before going through angiography. This is because do not have sufficient information about angiography procedure. In addition, those patients thought that angiography is a surgery and it has a huge risk on their life.

**DW4** “He didn't get what he expected about angiography was performed. He said that the angiography process started and the tube goes in through his vessels although he didn't expect it like that, he was not afraid”.

Seven of the participants feared when they are going through the CAG procedure because it was like surgery for them and some worried when the doctor told them to sign paperwork that they are willingly agreed to take part in the CAG procedure. Half of the respondents worried about the CAG because they don't have adequate information about the CAG procedure.

#### **5.2.7, Patient Expectation about the procedure**

The researcher asked respondents about their expectation from the procedure and their thought about the possible way the procedure could affect their day-to-day activities and sleep patterns.

Eight of respondents don't think that the procedure could affect their day-to-day activities and their sleep patterns. However, less than one-fourth of the participants experienced some side effects on their day-to-day activities and their sleep patterns.

Seven of the participants don't think their age, sex, educational status, and their living condition doe have an effect on their expectation and contribute anything in their expectation about the CAG. The remaining three participants think their age educational status and their living condition do have an effect on their expectation and have contribution about the CAG procedure.

**DW1** said, “knowledge or age and gender have no effect on volume information about the cardiac disease, meaning of angiography or the process.”

**DW4** said “my age and gender influence my health condition because am 43 years old and my age has an influence on my living conditions. In general, however, my educational background and dedication to know things have contributed to better understand what my disease is all about and got adequate information about the process and treatments.”

Seven of the participants didn't think that their gender could affect their expectations from angiography procedures or other health-related services. However, educational status has a contribution for some of the participants.

#### **5.2.8 Participants Suggestion and comments**

Finally, respondents were given the chance to share their comments or suggestions about the CAG and its procedures.

Some of the participants mentioned some comments and suggestions about the CCE services, CAG, and cardiac health problems.

**DW2** suggested, "government or non-government organizations have to support cardiac hospitals and centers because many children and adults who have been suffering from this disease and they can't afford the payment to get treatment and they didn't get the chance to get access medicine and related treatments".

**DW4** "I am so grateful for the help and support was given by CCE Hospital. The doctors and nurses are very helpful and kind for patients".

**DW1** "Angiography is a medical word and the doctors and nurses have to explain in detail about cardiac disease, angiography meaning and process and what a patient will go through when he/she undergoing the angiography process".

## **6. Discussion**

Currently, cardiovascular diseases are the foremost vital cause of mortality and morbidity.

The number of health service providers rendering diagnostic and therapeutical services for cardiovascular diseases is significantly increasing in Ethiopia. However, the doctor number per patient is still low and this leads to abbreviate examination time causing several impediments. This condition makes it difficult for health staff to effectively provide the service. On the patient side as well, there seems to be inadequate information about CAG.

The research has two main objective one is to explore the Expectation of patients about Coronary Angiography procedures and assessing patient awareness regarding coronary angiography procedure this discussion try to reach the objective.

This study intends to look into the expectations of patients about CAG. Understanding these expectations of the patient is of paramount importance for all the health team to provide more viable care to patients and improve the overall health services in this area.

According to the CDC's definition and American Herat Association, Coronary angiography is a diagnostic procedure using special materials which are called contrast and x-ray to see how blood flows through the coronary arteries (12). But the results of this study showed that more

than half of the patients considered Angiography as a treatment technique for their cardiac problem. And, most participants from the total patients stated that they have no idea about what Angiography means. The remaining one-fourth of the respondents believed that catheterization would cure their condition. Half of the respondents didn't get adequate information and the majority of them are getting the information from their doctor but they really didn't understand the information.

In Turkey, a learn about found that 47% of sufferers did not have adequate data about CAG, and this problem resulted in having off-base convictions. From the total respondents, most of them referred to that they don't be aware of what Angiography is. As in contrast to the effects of this study, the findings in Turkey are special from the state of affairs in Ethiopia (1). This finds out about has additionally shown that coronary angiography facts which include procedure, benefit, risks, indications, and contraindications are no longer given accurately to patients. This result modifies and conforms to the above one this justifies the medical doctors might have provided some records to the patients; however, the message would be efficiently communicated to each affected person solely if the primary data is furnished in a simplified way that has taken into account the historical past and ability of the patient. Furthermore, the European experience shows that visual training, information pamphlet & other supportive fabric will contribute to increasing understating patients(28).The price of conversation acts each as the groundwork and as the power of affected person satisfaction. Visual gadgets such as television and video can also also be helpful. As a result of the extended potential of communication, in Europe, cardiovascular patients experiencing coronary angiogram and PCI have moderate uneasiness sometime before the system (15, 17, 18). This distinction is because of the obstacles to communication and the misunderstanding of the procedure.

According to the findings of a study through Anika Odell and Angela Bang about Patient' expectations and fulfillment of expectations earlier than and after treatment for suspected coronary artery disease(25). Patients with suspected CAD had high self-assurance in the healthcare device and excessive expectations involving receiving suited care at the start of healthcare. They had, in general, an advantageous mindset toward the chain of care, which is in line with contemporary tips from the recommendations for CAD, and a superb mindset

concerning their involvement in the decision-making for their care process. At the top of the care process, however, solely 56.4% of the patients claimed to have had their expectations fulfilled.

As compared to this study, respondents have low expectations regarding receiving proper care at the start of healthcare and this may lead them to lack confidence in the healthcare system.

Because the majority of the participants has been wondering and misunderstanding about the CAG and their expectation is on the contrary from the procedure because of this most participants have several kinds of fears about the CAG procedure the above study is different from the situation in CCE. Having time to the patient to give mandatory information may narrowing the gap of patient expectation about the procedure and lack of training related to cardiac nurses and the cardiac team is one of the most problems for this gap.

Anxiety and stress are frequent in patients present process invasive procedures. Coronary angiography is a definitive diagnostic contrast for coronary artery disorder and valvular disease. It is crucial to supply facts to the patients to minimize tiers of nervousness and stress to this invasive procedure (29).

In CCE respondents noted that they have demanding times, have fear, and afraid before the procedure. They also expected the health care workers to assist them mentally and bodily before and after the procedure. Mental guide and physical care can lead to response and higher adaptability in patients, particularly for those who endure invasive procedures. Moreover, besides intellectual and physical care, the patients in this study cited that the lively presence of nurses used to be a necessary element in lowering their stress and anxiety. The bodily nearness of nurses for performing scheduled errands on my own cannot be exceptional for attaining the patients' needs; the nurses must also take into account the patients' psycho-emotional needs.

In the American Journal of Critical Care, it was once noted that the patient information and experiance related to their degree of indispensable instruction. Patients with education have more vital records than illiterates. Male is usually determined to be extra knowledge recipients than females. (21). In this study, most frequently the respondents don't assume that their gender should have an effect on their expectations about having angiography techniques or different health-related

issues. However, the respondents have indicated that academic fame has a contribution in putting their expectations. Only one respondent stated that their gender and age ought to influence their expectations. Even if the theory confirms that academic popularity and gender have the thing for receiving knowledge the respondent in this find out about didn't agree with this concept it is one of the profiles for the uneducated neighborhood how is their degree of appreciation involving the procedure.

A learnabout conducted byusing Enzenhofer confirmed that patients ofthe visualization group havebeen more blissful withthe conversation and had been statistically greater significant. Scholte additionally mentioned that numerous patients with built-upcoronary heart disorder andcardiovascular threat factors do not remember ever having received information about management of chance factors. Gulick et al. cited nurses has to play a higher position in presenting sufferers with the emotional support and statistics required to meet their wishes (21, 22).

Similarly, this learns about counseled that presenting patients with full data may additionally decrease the hazard of compli-cations related to stress. As of now, numerous sufferers are experiencing CAG methods in CCE and other government and non-governmental recuperation centers. Providing plenty of facts as feasible to these sufferers can help to enhance the first-class of the offerings and possible outcomes.

As stated above in this study 40% of the respondents didn't get sufficient information. In the Dicle study, 50.7% have gotten ample data (1) as in contrast to this result in another way the hole is wider this shows that there is a facts hole between patients and healthcare providers. To supply an education as a crew about the coronary angiography features, benefits, and aspect outcomes will be of magnificent assist for a cardiovascular nurse and the complete group member in rendering their service. It additionally improves affected person expectations about coronary angiography techniques and decreases some complica-tions of CAG associated with anxiety.

A study performed by using Holmboe & Ömer mentioned that sufferers normally overestimate the benefits of the procedure and suppose little of the dangers associated with the system have

terrible outcomes. The find out about additionally concluded it is fundamental to illuminate patients who journey CAG taking into account their age and instructive degree (1,13,14).

The new and perhaps altered finding of this find out about as compared to those of other studies is in the main on the degree of the grasp of these patients who claim to have the proper expectations about CAG. It was once revealed that there is a discrepancy between reality and expectations of the sufferers who claim to have the right knowledge about CAG (which constitutes one-fourth of the complete respondents worried in this study). Most of the respondents have without delay answered announcing that they have no thinking about the procedure. To improve the current situation, there is a want for recognizing patients' expectations and their information then instructing them and imparting them with the required information about diagnostic CAG and related to the recommendation.

The findings of this study burdened several components of patient's expectations related to CAG and gave a new perspective for nurses and medical practitioners to assist sufferers to have better experience related to this procedure. This learning reveals the perspective of a confined quantity of patients. Therefore, I couldn't generalize the findings to all different patients undergoing CAG. To sum up, it can be normally mentioned that the findings of this find out about are aligned with the different studies.

### **Summary of Findings**

The study found most participants have to lack awareness about CAG protocol. Participants were confused, scared, and didn't understand the impact or the outcome of the procedure. Most of the participant's thoughts CAG is a surgical treatment rather than a diagnostic procedure. This shows patient expectation and understanding of the procedure are completely different from the intent of the procedure. There is also a difference between what the definition of the concept in science and the understanding of people about the meaning and procedure of CAG.

Although few participants had a limited amount of information from the family, friends, and the internet, it did not provide them with an accurate representation of CAG.

Due to the complex medical terminologies and the science behind CAG, the most participant did not have the initiatives to learn more about the procedure.

Overall, the lack of simplified information on CAG that is suited for the general public and health care providers not providing sufficient information played a big role in the

misunderstanding and misinformation. Some doctors and nurses failed to provide a detailed explanation to their patients even right before they undergo through the procedure. Furthermore, the consent form and paperwork needed to be signed before the procedure created additional anxiety and stress by making participants feel like they are taking a huge risk. All these factors made CAG protocol an unpleasant overwhelming experience for patients.

Among the participants, less than one-fourth of them said they benefited from the procedure and help their doctor to diagnose the exact heart problem. The result of this study didn't show the significant gender-bases difference, both males and females were equally affected. However, the study found one-fourth of the participant with the higher education status had a better understanding of the procedure than those with limited education.

This also enables patients to have a clear understanding and awareness of the fact that angiography is a diagnosis process and not a treatment or surgery.

According to the analysis of the study, patients have experienced several kinds of fears. They were, worried and afraid before going through angiography. The common reason shared by most of the patients was the fact that patients were requested to sign a consent form, they are willingly participating in the CAG process, and if something happens or went wrong in the procedure, they are willingly shouldering the risk. And this is because more than half of patients do not have sufficient information about angiography procedures. In addition, some patients think that angiography is a surgery and it has a huge risk on their life.

## **7. Conclusion and Recommendations**

### **7.1 Conclusion**

The finding of this study showed a huge information gap and insight into an expectation of patients undergoing angiography. This information gap and misunderstanding resulted from anxiety and stress among participants. The lack of awareness and unrealistic expectations about the CAG procedure stems from several factors, including the complexity of the procedure. Lack of simplified information, lack of education, insufficient information, and misinformation. This study also showed in order to provide better and effective care, we need to understand patient expectations and increase awareness.

## **7.2 Recommendations**

FMOH should provide training for the health care providers who work in the center with the total service and supply.

MOE should incorporate the importance of patient expectation and awareness into its curriculum.

Health care policymakers should create laws that promote the importance of patient expectation and awareness.

The management of CCE must seriously consider this issue and train health care providers to fill the information gap among CAG procedures.

Recommendation for CCE and other cardiac centers:-

Recommendation 1:- provide patients with open-ended questionnaires on their expectations and concerns.

Recommendation 2:-Preparing educational materials like video clips about CAG, which are displaying at OPD, patient waiting room, and at the ward.s

Recommendation 3:- provide simplified Information and pamphlet in different languages.

Patient preparation for angiography should include education and simplified information addressing patient expectations. Education materials should be prepared and tailored for the general public in different languages. This will create a suitable healthcare environment that meets patient expectations while promoting quality and patient satisfaction. Furthermore, providing additional tools and training for doctors and nurses is curtail and will enable them to help their patients to have a better experience.

In general, filling the information gap and understanding the importance of patient expectation and awareness will lead to reduced patient anxiety and stress. Medical facilities and care

providers need to put emphasis on all-rounded patient care that is not only focused on specific procedures outcome, but also on psychological well-being and satisfaction of patients

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## **APPENDIX**

### **ANNEXES Annex I: Information Sheet**

**Name of Principal Investigator:** Nitshina Getnet

**Name of the Organization:** Addis Ababa University College of health sciences school of nursing & midwifery postgraduate program.

**Introduction:** This information sheet and consent form was prepared for Black Lion Hospital, the Emergency care unit. The form aimed to make the above-concerned office clear about the purpose of the research work, data collection procedures, and get permission to undertake the research.

**Purpose of the Research Project:** The main aim of this research was to explore patient expectations about angiography Procedures among patients in the cardiac center in Black Lion Specialized Hospital, Addis Ababa- Ethiopia, 2021.

**Procedure:** To come up with the above-mentioned findings according to the research criteria purposively participants selected for an in-depth interview, each individual undergo for 40 to 60 minutes using semi-structured questions, and the interview recorded accordingly by using appropriate in-depth interview procedure.

**Risk and /or Discomfort:** By participating in this research project, no risk comes to one who participates in the interview; which is in turn important for the overall planning and improvement of the program.

**Benefits:** The research has no direct benefit for the participant in this research. But the indirect benefit of the research for the participant and all other clients in the program is clear. This is because if program planners are preparing predicted plans there is a benefit for the patient in the program of getting appropriate care on diagnostic and treatment services. Of all, the Research work has a paramount direct benefit for health care planners and managers.

**Confidentiality:** The information collected from this research project was kept strictly confidential and information reviewed about the patients by this study was stored in a file, without name i.e. investigators use number codes to the record during the review. The information gathered was not accessible to anyone except the principal investigator and was kept locked with passwords and appropriate locks.

**Persons to contact:** Nitshina Getnet : Tel: +251924345648

Annex information sheet (Amharic version)

ከቡራን ተሳታፊዎች እንደምን ዋላችሁ አደራችሁ?

ስሜን ጽሕፍት ጌትነት ይባላል በአዲስ አበባ ዩንቨርሲቲ ህክምና እና ጤና ሳይንስ ኮሌግ የሁለተኛ ዲግሪ የመመረቂያ ጽሁፍ ጥናት ለማድረግ ለማደርገው ዝግጅት በ expectation about Coronary Angiography among Post angiography procedure in Addis Ababa Cardiac Center Ethiopia ታካሚዎች ስለ አንጂዮሎጂ ያላቸው አስተሳሰብ በአንጂዮሎጂ ታካሚዎች ላይ በሚል ርዕስ የጥናቱ ጽሁፍ ላይ ተሳታፊ ሆነው ተመርጠዋል።

**የጥናቱ አላማ:-** ታካሚዎች ስለአንጂዮሎጂ አገልግሎት ያላቸውን እውቀት እና አስተሳሰብ ማወቅ ነው ይህ የጥናት መረጃ በአንጂዮሎጂ እና ተያያዥ አገልግሎቶች ላይ ያለውን መረጃና ተያያዥ ክንውኖችን ማዳበር ነው።

**የጥናቱ ሂደት:-** መሰረታዊ መረጃዎችን እንዲሁም በያዝነው ርዕስ ጉዳይ ማለትም በኮሌጅ አንጂዮሎጂ ያሉትን እውቀትና አስተሳሰብ መረጃ ማግኘት ነው። በዚህ ሂደት ውስጥ ከክልል የሆነው ይም የተሳሳተ መልስ የለም ጥያቄው ከ20 እስከ 30

ደቂቃባለው ጊዜው ስጥይጠናቀቃል።

አንዳንድ ጭርቆሶች ለመወያየት አስቸጋሪ ቢሆኑም እንዲያውም አብዛኛዎቹ ታካሚዎች ይህንን ለመነጋገር ጠቃሚ እንደሆነ ይናገሩ ወይም ይገልጻሉ።

**ሚስጥራዊነት፡-** በመጠይቆች ላይ የሚሰጡት ወይንም የሰጡት መረጃ ሚስጥራዊነቱ ፈጽሞ የተጠበቀው።

ለሶስተኛ አካባቢ የሚሰጥ ስም እንደሚመዘገብ ለመግለጽ እወዳለሁ።

**የራስ ፈቃደኝነት፡-** በጥናቱ ላይ መሳተፍም አለመሳተፍም እንዲሁም በማንኛውም ሰዓት ማቋረጥ ይቻላል።

በዚህ ጥናት መሳተፍ ወይም አለመሳተፍ ዎንጊያ ገንዘብ አገልግሎት ላይ ለሚሰጥዎት እንክብካቤ የሚጨምረው ወይም የሚቀንሰው ነገር አይኖርም። ከዚህ ጥናት ጋር በተያያዘ ጥያቄ ካለዎት ከዚህ በታች ባለው አድራሻ ንጽሕና ጌትነት ብለው ያግኙኝ።

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## **Annexes II In-depth individual interview**

Discussion Schedule Date-----

Time allocated; 10-30 min maximum

- Welcome
- General introduction
- Establishing rapport
- Participant introduction
- Ensure participant have fully understood the information sheet
- Ensure informed consent has been obtained
- Remind the participant that participation is voluntary free to withdraw at any time
- Emphasis the nature of in-depth interview and intrinsic nature of confidentiality
- Inform that the interview is being recorded and insure equipment is working
- Begin recording and give first question probe to start the interview
- Summarize the key points of the discussion and provide opportunity for confirmation and feedback
- Give information regarding gaining access to the transcriptions
- Thank all for attending – Refreshment

**Annex III: Participant consent form (English Version)**

Research title: Patient expectation about angiography Procedure among patients in the cardiac center in Cardiac Center Ethiopia, Addis Ababa- Ethiopia. A Qualitative Study.

Code number ----- I understand that the purpose of this study explores patient expectations about angiography Procedures among patients in the cardiac center in Black Lion Specialized Hospital. Similarly, I am aware of participating in this study is voluntary and does not have any payment or incentive. In addition, the information that is given is kept confidential and does not expose to another third party. This interview will be taken place only if you agree to take part in the study and I sincerely ask you to give your genuine responses in the interview. So,

Would you agree to participate in study? Yes ----- No----- Signature of participant \_\_\_\_\_ Name and Signature of the data collector who sought the consent \_\_\_\_\_

የስምንት ቅጽ

**A.** Expectation about Coronary Angiography procedure among cardiac patient in Addis Ababa cardiaac center Ethiopia. ታካሚዎች ስለ አንጂዮግራፊ ያላቸው አስተሳሰብ ታካሚዎች ላይ በሚል ርእሰ እኔ የሰጠሁት ግላዊ መረጃ ምሚስጥራዊነቱ ፈጽሞ የተጠበቀ ለሶስተኛ ወገን ተላልፎ እንደማይሰጥ እና ስም እንደማይመዘገብ ተረድቻለሁ። በተጨማሪም በጥናቱ ላይ መሳተፍም አለመሳተፍም እንደምችልና በማንኛውም ሰዓት ማቋረጥ የምችል መሆኔን ተረድቻለሁ። ከጤና አገልግሎት እና እርዳታ ጋር በተያያዘ ተጽዕኖ እንደሌለው አጥኚው አያይዞ አሳውቆኛል።

የተሳታፊው ፈቃደኝነት አዎ  አይደለም   
የተሳታፊው ፊርማ ..... ቀን .....  
የመረጃው ሰብሳቢ ፊርማ ..... ቀን .....  
የመረጃ ሰብሳቢ ስልክ 0924345648

**Annex IV: Data extraction sheet**

**Title of the study:** Patient expectation about angiography Procedure among patient in cardiac center in Cardiac Center Ethiopia, Addis Ababa- Ethiopia

part I: Socio demographic
1. Medical record number (MRN) _____
2. Age _____sex
3. Place of residence _____
4. Educational status_____
5. Marital status _____

**Annex V: In-depth interview guide Questions**

Semi–a structured guide for Patient expectations about angiography Procedures among patients in the cardiac center, Addis Ababa- Ethiopia.

General introduction for the facilitator As you know, I am ..... (Full name of the facilitator) and I am going to facilitate our discussion today. Our discussion will be on your personal views and experiences regarding your expectation about the angiography Procedure. Before we go further, let us introduce ourselves and after the introduction.

1. What was it look like for you having a cardiac health problem and being hospitalized with a heart problem? Can you tell me about your recent admission to the hospital for your heart problem?
2. What diagnostic procedures are done for you? Have you heard about CAG? What is CAG and how do you explain the procedure? Tell me why you need to have this procedure? (for what purpose?) Probe for more
3. What do you know about CAG? Explore what kind of procedure coronary angiography is? (Probe whether it is a diagnostic or therapeutic procedure)?
  - a. Where did you get information about CAG?

- b. Can you explain the steps and the educational aids used by your physician? (probe for the procedure followed during informed consent process)
- c. Do you think you have received adequate information regarding the procedure?
- 4. How do you think having this procedure has affected/ will affect you? What outcome do you expect from the procedure? How do you think this procedure will help you? Explore
  - a. What kind of benefit (you expect from CAG? What do you expect from CAG?
  - b. What are the risks or side effects of CAG?
  - c. What differences can you feel within yourself after exploring the test?
  - d. what made the whole test experience easy? Or difficult for you? Comfortable or uncomfortable?
  - e. probes; Can you tell me more about that? How did you come to think that way?
- 5. Is there anything you find yourself thinking about/wondering about the CAG?
  - Explore. Probes: Why do you think about that?
- 6. What fears do you have about having CAG? Explore.

Probes:

- What is your greatest worry or fears about having the procedure? Probe for others
- Why do you think you have those worries?
- Do you share with others about those worries? And how?
- Do you know any relative or friend who had this procedure? What did you ask them about it?
- How do you manage that/those worries? What helps you cope when you think about having this procedure?

Probe

- Explore beliefs/supports that are identified.

- 7. What Expectation change you had having the procedure? Why? Can you explain any new expectations you had after the procedure?

Probes

- Why do you think you feel that way?

- How does thinking about having the procedure will affect your day-to-day activities and your sleep pattern? Probes; how do you think that will change after the procedure?
- Do you think Your age, sex, educational status, and your living condition does have a factor to on your Expectation or does it have a contribution?

8- Do you have any suggestions? Question or any comment you will add?

That all my queation am done thank you for your willingness.

**Annex V information sheet (Amharic version)**

ስሜ ንጽሕና ጌትነት ይባላል በአዲስ አበባ ዩንቨርሲቲ ህክምና እና ጤና ሳይንስ ኮሌግ የሁለተኛ ዲግሪ የመመረቂያ ጽሁፍ ጥናት ለማድረግ ለማደርገው ዝግጅት የጥናቴ ጽሁፍ ላይ ተሳታፊ ሆነው ተመርጠዋል።

የካርድ ቁጥር.....

እድሜ.....ጾታ.....

አድራሻ.....

የጋብቻ ሁኔታ.....

1. ለእርስዎ የልብ ህመም ችግር መኖር እና ሆስፒታል መተኛት ምንድነው? መቼ ነበረ በቅርቡ ሆስፒታል በልብ ህመም የተኙት?
2. ምን አይነት ምርመራ ነበር የተሰራልዎት? ስለአንጂኦግራፊ የሰሙት ነገር ነበር? አንጂኦግራፊ ምን ማለት ነው? እስኪ ስለተደረገልዎት ነገር ንገሩኝ? ይህንን አገልግሎት ለማግኘት ያስፈለግዎትን ምክያት አያይዘው ይገልጹልኛል? እስኪ በደንብ አብራራተው ንገሩኝ?
3. ስለ አንጂኦግራፊ ምን ያውቁ ነበር? ምን አይነት ሂደት እንደሆነ ይነግሩኝ? እስኪ በደንብ አብራሩት ህክምና ነው ወይስ ምርመራ?
  - 3.1 የትነው ስለአንጂኦግራፊ መረጃውን ያገኙት?
  - 3.2 እንዴት ነበር ሃኪምዎ ስለአንጂኦግራፊ መረጃ የሰጥዎት? በሰአቱ የተጠቀመው መረጃ መስጫ ምን ነበር? ሂደቱን ለማግኘት የስምምነት ቅጽ በሚፈረሙበት ወቅት ?
  - 3.3 እርስዎስ ስለሚያገኙት አገልግሎት ምን ያህል በቂ መረጃ አግቻለሁ ብለው ያስባሉ?
  - 3.4 በቂ መረጃ አለማግኘትዎ ምን ተጽእኖ አመጣቦት?
4. ይህ የተሰጥዎት የህክምና አገልግሎት ተጽዕኖ አድርጎብኛል ወይም ያደርግብኛል ብለው ያስባሉ እስኪ ይንገሩኝ? ይህ የአንጂኦግራፊ አገልግሎት ረድቶኛል ብለው ያስባሉ? እስኪ እንዴት እንደረዳዎት ሊነግሩኝ ይችላሉ?
- 4.1 ከአንጂኦግራፊ ምን አይነት ጥቅም አገኛለሁ ብለው ያስባሉ? ምንስ ነው የሚጠብቁት? የጠበቁትንስ አግኝተዋል?

- 4.2 አገልግሎቱ ምን ዓይነት አደጋ ወይም የጎን ጉዳት አለው ብለው ያስባሉ?
- 4.3 አገልግሎቱን ካገኙ በኋላ ምን ዓይነት ልዩነት ይመጣል ብለው ያስባሉ?
- 4.4 በአጠቃላይ ያገኙት አገልግሎት ቀላል ነበር ወይስ ከባድ? ምቹ ነበር ወይስ አስቸጋሪ?
- 4.5 ይህን ያሉበትን ሁኔታ አስኪ በደንብ አብራርተው ንገሩኝ
- 5. ስለአንጂአግራፊ የገረምዎት ወይም የሚያስቡት ነገር ምን ነበር? አስኪ አብራሩልኝ?
- 6. ስለአንጂአግራፊ ያሰፈራዎት ነገር ነበር? አስኪ በደንብ አብራርተው ንገሩኝ ?
  - 6.1 አገልግሎቱን ለማግኘት በጣም ያስጨነቅዎት ምን ነበር? ሌላስ ያሳሰበዎት ነገር ነበር?
  - 6.2 ምንድነው ያስጨነቀኝ ወይም ያሳሰበኝ ብለው ያስባሉ?
  - 6.3 ከሚያቁት ጓደኛ፣ዘመድ ወይም የቅርብ ቤተሰብ አንጂአግራፊ የተሰራለትአለ? ምን ነበር ከዛሰውየተረዱት? ወይም የጠየቁት ጥያቄ?
  - 6.4 ሌሎች ቤተሰቦችዎ ይህንን ጭንቀትዎን ወይም ሃሳብዎን አውቀዋል?
  - 6.5 ስለአገልግሎቱ መጨነቅዎን ወይም ማሰብዎን ለሌሎች አጋርተዋል?
  - 6.6 እንዴት ነው ይህንን ጭንቀትዎን ወይም ሃሳብዎን በጊዜው ያስተናገዱት? ወይም ያሳለፉት የነበረዎት ዕምነትና ያገኙትን ድጋፍ እንዴት እንደነበር ይገልጹታል??
- 7. ይህንን አገልግሎት ከማግኘትዎ በፊት እያገኙና ከማግኘትዎ በኋላ ይጠብቁት የነበረው ነገር ነው የሆነው? ወይስ ከጠበቁት የተለየ ነበር? ያገኙት ልምድ ወይም ተሞክሮ?
- 7.1 ይህንን አገልግሎት በማግኘትዎ በእለት ተእለት እንቅስቃሴ ላይ ወይም በእንቅልፍ ላይ ያመጣብዎት ተጽእኖ አለ ብለው ያስባሉ?
- 7.2 እድሜዬ፣ጾታዬ፣ያለሁበት የትምህርት ደረጃ እና የኑሮዬ ሁኔታ ስለአገልግሎቱ ለማወቅ የነበረኝን ነገር ቀንሶታል ብለው ያስባሉ? ወይስ እንዳውቅ አስተዋጽኦ አድርጎልኛል ብለው ያስባሉ ?
- 8. መጨመር የሚፈልጉት ነገር አለ? አንዲህ ቢሆን ጥሩ ነው መሻሻል አለበት የሚሉት ነገር አለ? ስለትብብርዎ አመሰግናለሁ ጥያቄዬን ጨርሻለሁ!!!