Arab American University

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Nurses' Knowledge, Attitudes, and Practices of Patients' Safety After Cardiac Catheterization

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This thesis was submitted in partial fulfillment of the requirements for the Master's degree in

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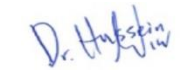
1. Supervisor name: Hussien Jabareen	
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Declaration

This thesis was submitted in partial fulfillment of the requirement for the Master's degree in the Emergency Nursing.

I declare that the content of this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

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الحمد لله اللذي بنعمته تتم الصالحات

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Abstract

Introduction: Although the cardiac catheterization is safe to patients and can save them from life-threatening conditions, but still has possible risk for complications, these complications divided in two main parts, minor complications and major complications and may cause death. This study aimed to investigate nurses' knowledge, attitude and practice (KAP) of patient safety after cardiac catheterization in Palestinian West Bank governmental and non-governmental hospital.

Method: quantitative, cross-sectional method, descriptive study conducted in 2021, data collected by visiting the hospitals and distribute the questionnaire. Sample size were 220 nurses, and 212 respondents were completed the questionnaire. SPSS version 24 was used to analyze the data. Descriptive statistics, Pearson correlation, and t-test were used in the analysis of resulted data.

Results: The study showed that the overall level of nurses' knowledge, attitudes, and practice concerning health care for patients post cardiac catheterization is good with the mean score of 3.75 and SD=0.39, most of nurses have intermediate knowledge and attitudes about patients' safety post cardiac catheterization with mean 3.52± SD 0.48 & 3.65± SD 0.47 consequently, while they have high level of practice 4.23±0.59. In addition, the perception of nurses for the application of institutional measures by their hospitals was intermediate (M: 3.66± SD: 0.74).

The total KAP score is statistically significant with sociodemographic variables: age, marital status, and department that nurses working in, and there's trend in qualification level, in addition there's relationship between institutional measures variable with KAP variables.

Conclusion: Nurses have an adequate knowledge toward patients' safety post cardiac catheterization which can be increased by increasing the level of nurses' qualifications with positive attitude and high practice level toward patients' safety post cardiac catheterization, practice affected from nurses' knowledge, and KAP has positive relationship with the institutional measures to enhance patients' care.

Recommendation: Enhance the continuous education committee and empower their roles to follow up nurses' education status, also Establish a monitoring system on patients' status post cardiac catheterization to improve the patient safety outcome, and finally establish a protocol that all nurses who will be accepted to work in cardiac care departments must have at least one course about cardiac catheterization.

Keywords: Emergency nurse, Cardiac catheterization, CCU, ICU, KAP

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Chapter One: Introduction

1.1 Introduction

According to World Health Organization WHO nurses are the framework of any organization aimed to provide health care, they are work together as a team to achieve the highest and best level of care that provided to people regardless of their traits and features, for all families, ages and communities in all sites (WHO, 2019). They are responsible to provide health promotion in addition to illness prevention. According to the last report of the Palestinian Ministry of health (MOH) there are 3580 nurses in Gaza strip and 7879 nurses in West Bank, with a total of 11459 nurse in Palestinian hospitals (MOH, 2018).

Cardiovascular diseases are the main reason of death in worldwide, 17.9 million were died every year from cardiovascular disease which estimate 32% of all deaths in the world, as World Health Organization heart attacks and strokes account for more than four out of every five CVD fatalities, and one-third of these deaths occur in persons under the age of 70 (WHO,2021). The last report of the Palestinian Ministry of health (MOH) cardiovascular diseases have the highest percentage of major causes of death in 2020 with 24.7% (Palestine MOH Annual Health Report, 2020)

In order to evaluate coronary anatomy and to assess heart disease, catheterization is considered an appropriate treatment option, which may provide additional details for proper care (Knopp, 2009), The functions of the circulatory system and the heart are negatively affected by cardiovascular diseases, like coronary artery disease, cerebrovascular disease, and peripheral vascular disease (Arathysr, 2011).

Previous literatures talked about complications and how to minimize these complications that caused by cardiac catheterization or PCI in a general, such as time of ambulation and bed rest time, for example Lee et al., (2016) conducted a study that aimed for evaluating the complications of Cardiac Cath. And their associated risk factors in a tertiary center over 10 years, in addition Kobrossi et al., (2014) aimed to decide if early (3 hours) ambulation post cardiac Cath / Percutaneous Coronary Intervention is as safe as normal (6 hours) ambulation period in his study. little of these studies linked external variables that could associated with the level of knowledge, attitudes, and practice (KAP) among nurses about patients' safety after cardiac catheterization, in addition there're no studies developed or conducted in Palestinian hospitals about this topic, especially in special hospitals that caring of heart such as Al-Mizan Hospital, in spite of using cardiac catheterization as a selected choice method for cardiologist to evaluate both sides of the heart.

Cardiac catheterization is a procedure that allows the cardiologist to get direct information about the blood pressures and patterns of blood flow within the heart. An angiogram is an X-ray movie that is taken while special fluid (called contrast) which is visible by X-ray is injected into a cardiac chamber or major blood vessel, according to guidelines issued by the American Heart Association (AHA, 2018).

This test can perform on both side of the heart, so cardiac catheterization can evaluate the function of both sides of the heart. Meanwhile, some complications of cardiac catheterization occur during the transference or delayed or incorrectly delivered nursing care of patients following cardiac catheterization .The awareness of KAP of nurses related to patients post CC will enable health settings to determine the best approach to be provided to their patients

with high-quality nursing care, in addition early recognition of these complications logically could help to take best actions to treatment in order to decrease and minimize further complications. (Hassan, 2017)

Even so, the usage of cardiac catheterization procedures is increasing in cardiac catheterization laboratories (CCL), and this increase may cause errors and harming patients, and complications that happened during or post procedures still represent important cause of mortality and morbidity (Lindsay et al., 2018).

Although the cardiac catheterization is safe to patients and can save them from life-threatening conditions, but still has possible risk for complications, these complications divided in tow main parts, minor complications and major complications and may cause death. The international incidence of complications and mortality are less than 2% and 0.08% consequently (Tavakol et al., 2012).

Minor complications include: bleeding, medication or dye reaction, minor infections and temporary pain and bruising. Major complications include: heavy bleeding, arrythmias or heart failure, cardiac arrest, organ damage, blood clots, failure of medical equipment, anaphylactic shock of medication or dye and kidney failure (Arathysr, 2011). So, assessing nurses' knowledge, attitudes, and practice about patients' care post cardiac catheterization is a very important issue to be researched as a way to reduce these complications.

In general, patients who yield to cardiac catheterization referred to medical cardiac care unit (CCU), this department is specialized for patients who have cardiovascular problems such as myocardial infarction, arrhythmias and other heart diseases like rheumatic heart disease, in

addition to patients done some of cardiac procedures like cardiac catheterization. Nurses and all medical staff who are working at this ward must have specialized knowledge, attitudes and practice to take care of patients with serious cardiac problems (Kasaoka, 2017).

1.2 Justification

The study talks about assessing the Nurses' Knowledge, Attitudes, and Practices of patient safety after cardiac catheterization in the center and south of the West Bank. There are no previous studies that explored the incidence of prevalence of cardiac catheterization complications in Palestine.

Internationally, the incidence of major cardiac catheterization complications are less than 2% and mortality is 0.08% (Tavakol et al., 2012). an example of such complications are cardiac arrest, heart failure and other complications, so I choose this topic due to of these fatal complications that may developed with patients' who are under direct contact of nurses overall 24 hours, and nurses must know about these complications and how to deal with it to prevent harm of patients and maintain their safety, and in our country there is lack of data researches and papers that aimed to assess the Nurses' Knowledge, Attitudes, and Practices of patient safety after cardiac catheterization. In addition, the lack of information about cardiac catheterization and its complications makes it difficult to assess nurses' KAP in order to improve their performance, policies, and protocols.

On the other hand, previous literatures talked about complications and how to minimize these complications that caused by cardiac catheterization or PCI in general, such as time of ambulation and bed rest time, but little of these studies linked external variables that could associated with the level of knowledge, attitudes, and practice (KAP) among nurses about

patients' safety after cardiac catheterization, and there're no studies developed or conducted in Palestinian hospitals about this topic, especially in special hospitals that caring of heart, in spite of using cardiac catheterization as a main choice method for cardiologist to evaluate both sides of the heart.

1.3 Problem statement

Cardiac catheterization is known as an efficient way of studying cardiac anatomy and is used to examine many heart diseases. On the other side, this procedure has fatal complications. It is estimated that less than 2% of overall patients who go through this procedure have major post-catherization complications (Tavakol et al., 2012). So, assessing nurses' knowledge, attitudes, and practice about patients' post cardiac catheterization is a very important issue to be researched as a way to reduce these complications. According to the researcher knowledge, no similar studies were conducted in Palestine.

1.4 Significance of the study

Understanding the level of knowledge, attitudes, and practice that nurse have about patients' post cardiac catheterization and its relation toward efficient practice that provided to patients is verry important to decrease complications and mortality, in addition to improve the quality of care that is provided to patients. The findings of this research could be useful to inform educational programs for nurses to improve their knowledge, attitudes, and practice about patient safety after cardiac catheterization.

1.5 Study purpose

The main objective of this research is to determine the variables that could reduce cardiac catheterization complications by identifying nurses' KAP level and their contributing factors connected to post cardiac catheterization.

Specific objectives of the research

- To identify the levels of knowledge, attitudes, & practice (KAP) of nurses about patients' post cardiac catheterization .
- To identify the external variables (especially hospital characteristics: type, instructions and protocols, training courses, professional committees and meetings) that could associate with the levels of KAP among nurses about patients' post cardiac catheterization.
- To determine the relationship between the various nurses' socio-demographic characteristics and their KAP.
- To determine the relationship between hospitals' measures and KAP among nurses about patients' post cardiac catheterization.

1.6 Research questions

Main Question

1. What is the level of knowledge, attitudes, & practice (KAP) among nurses about patients' post cardiac catheterization? And what are the contributing factors that associated with nurses' KAP level?

Sub-Questions

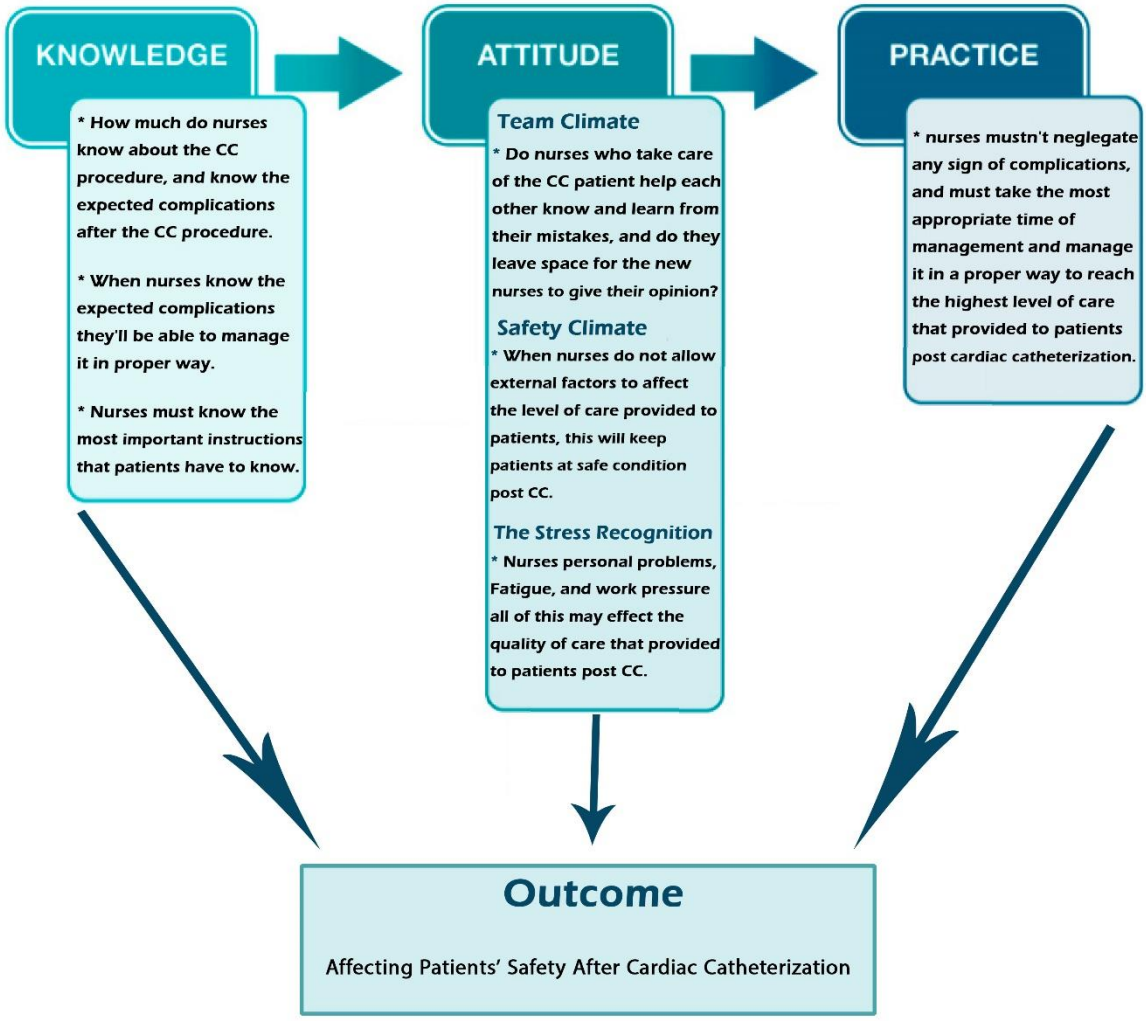
2. Is there a relationship between the various nurses' socio-demographic characteristics and their KAP regarding patients' post cardiac catheterization?

3. What are the external variables that could associated with the levels of knowledge, attitudes, & practice (KAP) among nurses about patients' post cardiac catheterization?

4. Is there a relationship between hospitals' measures and KAP among nurses about patients' post cardiac catheterization?

1.7 Conceptual Framework

This study will use the Knowledge, Attitudes, & Practice (KAP) Model as research framework to explore nurses'' knowledge, attitudes, and practices of post Cardiac Catherization complications. The outcomes of this study could be used to develop strategies to improve nursing services at Palestinian hospitals .


KNOWLEDGE
* How much do nurses know about the CC procedure, and know the expected complications after the CC procedure.
* When nurses know the expected complications they'll be able to manage it in proper way.
* Nurses must know the most important instructions that patients have to know.
ATTITUDE
Team Climate
* Do nurses who take care of the CC patient help each other know and learn from their mistakes, and do they leave space for the new nurses to give their opinion?
Safety Climate
* When nurses do not allow external factors to affect the level of care provided to patients, this will keep patients at safe condition post CC.
The Stress Recognition
* Nurses personal problems, Fatigue, and work pressure all of this may effect the quality of care that provided to patients post CC.
PRACTICE
* nurses mustn't neglegate any sign of complications, and must take the most appropriate time of management and manage it in a proper way to reach the highest level of care that provided to patients post cardiac catheterization.
Outcome
Affecting Patients' Safety After Cardiac Catheterization

Dependent variables of the model:

Knowledge: This noun refers to what is known, as through study or experience. So the knowledge defined by medical dictionary as familiarity, awareness, or understanding gained through experience or study (American Heritage® Dictionary, 2011).

Attitudes: Is personal or mental view of health care workers on post CC complications prevention activities when caring for patients. (Collins English Dictionary).

Practice: means the action of doing something regularly or frequently to promote your skill in some work. Exploring nursing practices in this study is measured through performance questions but not actually observed (Jemal et al., 2018).

1.7.1 Study dependent variables

- Knowledge
- Attitudes
- Practice

1.7.2 Study independent variables

Nurses' demographic characteristics, external variables (such as type of hospital, availability of training courses, availability of instructions and protocols and professional committees), and hospitals' preventive measures.

1.7.3 Conceptual and operational definitions

Nurses: person who care of individuals of all ages, families, groups and communities, sick or well and in all settings. Their roles include the promotion of health, the prevention of illness, and the care of ill, disabled and dying people (WHO, 2020).

Patient safety: is the prevention of errors and adverse effects to patients associated with health care. (WHO, 2020).

Cardiac catheterization: is a procedure that allows the cardiologist to get direct information about the blood pressures and patterns of blood flow within the heart (AHA, 2020).

1.7.4 Operationally

Knowledge: structured questionnaire developed to assess nurses' knowledge of patients' safety post CC.

Attitude: developing questionnaire for assessing nurses' attitudes of patients' safety post CC with my supervisor and make it reliable and valid.

Practice: structured questions were quoted from Observational chick list which was developed by researcher guided by Arathysr, (2011); Feroze et al., (2017), those questions must be answered by nurses.

2. Chapter two: Literature Review

2.1 Introduction

In this chapter, the researcher reviews the previous literature about assessing KAP of nurses about patients' safety post cardiac catheterization and related articles. The study used the Knowledge, Attitudes, & Practice (KAP) Model as research framework to explore nurses'' knowledge, attitudes, and practices of post Cardiac Catherization complications. The outcomes of this study could be used to develop strategies to improve nursing services at Palestinian hospitals .

Dependent variables of the model:

Knowledge: This noun refers to what is known, as through study or experience. So, the knowledge defined by medical dictionary as familiarity, awareness, or understanding gained through experience or study (American Heritage® Dictionary, 2011).

Attitudes: Is personal or mental view of health care workers on post CC complications prevention activities when caring for patients.

Practice: means the action of doing something regularly or frequently to promote your skill in some work. Exploring nursing practices in this study is measured through performance questions but not actually observed (Jemal et al., 2018).

Review of literature is separated into 4 parts:

1. Studies that are investigating KAP among nurses about patients' safety after CC.
2. Studies related to nursing care of cardiac catheterization patients.
3. Studies about complication and management of patients post CC.
4. Studies on Performance evaluation of nursing care

2.2 KAP among nurses about patients' safety after cardiac catheterization:

Hasballah et al. (2019) conducted study to evaluate nurses' knowledge and attitude for patients' safety in CC unit with a descriptive design by using tool that was interview sheet with 3 parts, first for personal data, second for nurses' knowledge the last part for nurses' attitudes for patients' safety, 40 nurse participated, researcher found that all of nurses with poor knowledge for patients' safety and about 23% had positive attitude toward patients' safety in CC. because of nurses had poor knowledge and negative attitudes so, Educational program should be done for nurses in cardiac catheterization about patient safety to improve their knowledge and attitude for patient safety.

Yaqoob et al. (2019) aimed to evaluate the knowledge and practices with the nurses related to patient care, following CC, at a tertiary care hospital in Karachi, Pakistan, researcher assessed the knowledge by using questionnaire consisted of 50-multiple choice and the practice by observational checklist comprised of 20 components for 70 participants. Researcher found that only 5.7% nurses had excellent knowledge score and 40% had inadequate. Whereas 12.9% were observed as carrying out satisfactory practice and others are unsatisfactory researcher conclude that attitudes must assess by qualitative approach and to develop and implement a standard post-CC care protocol.

Feroze et al. (2017) conducted a study cross-sectional survey in which the knowledge, awareness and practice of the safety of patients after cath. tool was spread to 171 female nurses working at the Punjab Institute of Cardiology Hospital in Pakistan, multiple choice Likert scale questionnaire was used to gather data to test the knowledge, awareness and practice of the safety of patients after catheterization. findings showed that mean of knowledge was found to be high as compared with mean of practice that was bad, indicating that there is a positive link between knowledge and practice on the wellbeing of patients after cardiac catheterization.

Fleih Hassan (2015) developed a A descriptive research was performed in Baghdad's Ibn Al-Biter Specialist Center for Cardiac Surgery to investigate the nurse's knowledge of the safety of adult patients during cardiac catheterization and its association with nurse demographic results. At the Ibn Al - Biter Expert Centre for Heart Surgery, 50 participants filled out a questionnaire. Results have shown that nurses' skills and demographic statistics are not associated.

Arathysr (2011) conducted a survey study, research aimed to assessing the level of knowledge and practice of nurses about patient safety after cardiac catheterization. The tool was conducted in ICU and CCU departments in Thiruvananthapuram in India. 30 participants of population were included in the survey. Results showed that the correlation between knowledge level and the years of experience was positive.

2.3 Nursing care of patients related to cardiac catheterization:

Elgazzar & Eaid Elgazzar (2018) used quasi experimental research investigating the effects of creating guidelines for nurses on the protection of cardiac catheterization patients, by choosing sample of 51 nurse was working at Cardiac cath. Care unit, CCU and Er. Departments. The researcher used 2 tools, the first one about nurse's knowledge about patients'' safety after CC and socio demographic data, the second tool was nursing care for patients' post CC. research results showed that most of nurses have highly performance and satisfactory knowledge related to patients' safety for CC after implementing the learning guidelines than pre learning. Which reflected positive correlation between nurse's qualification, experience and knowledge after learning guidelines with significant difference regarding experience. And a strong positive link between the performance of the studied nurses and their qualifications with respect to the application of the post-learning guidelines. Finally, in post-learning guideline implementation, a strong link between performance and patient safety knowledge. Which can be concluded as learning guidelines improved nurse's knowledge, performance and care of patients' post CC.

Saberi et al. (2017) conducted a study that the goal was to analyze the attitude of nurses towards the culture of patient safety in the general teaching hospitals associated with the Tehran University of Medical Sciences, Iran. In a cross-sectional study randomly selection of 385 nurses and collected data by using safety attitude questionnaire, 325 were completed the questionnaire, researcher used t-test and ANOVA. As a research result that the nurses had poor attitudes toward the dimensions of the patient safety culture so Specific training

interventions to strengthen the working environment and the safety atmosphere in these hospitals need to be carried out.

Juran et al. (1999) investigates nursing interventions to decrease bleeding at the femoral access site after percutaneous coronary intervention. The aim of researcher is to find the association between nursing intervention and complication of arterial access site with patients have PCI in addition to improve care for minimizing bleeding complications. By descriptive, correlational 4010-patient study and regression was used to Test nursing strategies and the effect of percutaneous coronary procedures on bleeding at the access point. Study's results show that nursing intervention affect occurrence of moderate so severe bleeding. Researcher realized from study results that the most factor in decreasing complication Early removal of the sheath, the pressure system used to achieve arterial hemostasis, unique jobs for workers, and the individual and procedure used to remove the sheath were used. In order to decrease the nursing workload, most nursing strategies seek to minimize bleeding at the vascular access point, but do not greatly impact bleeding in the groin. the results underline the significance of current clinical observational trials on the basis of patient results to validate nursing practice.

A very interested study was conducted by Rolley et al. (2010) on nursing care practices following a percutaneous coronary intervention, in an integrative literature review and current clinical recommendations, the researcher explains the priority of treatment and practice for cardiac nurses. The researcher applied a 116-item web-based survey to cardiovascular nurses by using email lists of experienced cardiovascular nursing organization and used a safe online data collection system, 148 respondents entering the survey, all

respondents were RN with an average of 12.3 years of experience in nursing job, psychosocial treatment has low priority over other activities, such as ambulation time following PCI, sheath removal procedures, pain management, and patient positioning, respondents considered. and they have a lack of knowledge on psychosocial care. The survey identified a number of patterns of practice and a range of educational needs.

One research study was conducted to see how ambulation after (CC) influenced patients' back pain, puncture site pain, vascular complications, urinary distress, general well-being experience and satisfaction level by Chair et al. (2012) The study was a single-blind, randomized, controlled trial. Overall, according to a computer-generated random list, 137 participants were randomly assigned to the experimental (63 participants) and control (74 participants) group to compare different results between experimental and control groups. In the experimental and control groups, early ambulation (at 4 hours after cardiac catheterization) and regular post-procedure care of 12 to 24 hours were used, respectively. Research findings show that there are no significant differences in both puncture site pain and patient satisfaction levels. In spite of that one patient in control group experienced bleeding in site of puncture after cardiac catheterization as a study, ambulation at 4 hours after cardiac catheterization significantly reduced the back pain of patients 8 hours after returning to the unit and increased overall well-being in addition to reducing urinary discomfort. The research strengthened the awareness of health professionals about the impact on patient outcomes of early ambulation.

2.4 Complication and management of patients after cardiac catheterization:

Habashy et al. (2019) investigate a study that aimed to develop a proposed plan for patients` safety management system at cardiac catheterization units at Suez Canal University Hospitals. By using 106 health team members as a convenient sample working at cardiac catheterization unit, included twenty-three physicians, seven medical managers, sixty-three nursing staff, eight nursing supervisors, and five x- ray technicians. Researchers used 2 tools for collecting data, structured questionnaire and interview questionnaire for health team members. there was a statistically significant difference between physicians, nurses, and other health team members` response, regarding competence, training, and communication channel. While there was no statistically significant difference between them regarding the majority of safety perception questionnaire dimensions.

A retrospective study that was studied by Lee et al. (2016) aimed for evaluating the complications of Cardiac Cath. And their associated risk factors in a tertiary center over 10 years. The total number of CC that was performed at the Seoul National University Children's Hospital from 2004 to 2013 were 2071. Researcher results showed that mortality rate 0.19%, sever complication 1.15% and over all complications 16.2%. using anticoagulant before procedure, prothrombin time, general anesthesia using during procedure and total procedure time were the factors that related to increase the risk of overall and sever complications. low body weight, severe SHD, repetitive procedures and total fluoroscopy time related to increase the overall complication risk. ICU admission state, concomitant electrophysiological study during procedure, and high activated PTT significantly increased severe complication risk.

Walker et al. (2008) conducted a Study on Comparing of complications in percutaneous coronary intervention patients mobilized 3, 4 and 6 hours after removal of the femoral arterial sheath the aim of the study was to examine the groin complication rates of patients mobilized 3, 4 and 6 hours after removal of the femoral arterial sheath after percutaneous coronary intervention. The researcher inspected the inner thighs (groins) of the participants next day of removal of the femoral arterial sheath for signs of complications for randomly assigned participants in 3, 4, or 6 hourly mobilization group. The findings of the study showed that the duration of bed rest after removal of the arterial sheath have no effect for bleeding or hematoma development at the groin puncture site for participants who mobilized arterial sheath removal at either 3, 4, or 6 hours after percutaneous coronary intervention.

There's a study investigate the optimal time of ambulation post cardiac cath. done from femoral artery this study conducted by Kobrossi et al. (2014) The study was retrospective observational study complications caused by cardiac cath. alone or with Percutaneous Coronary Intervention from the femoral artery that ambulated after 3-6 hours and aimed to decide if early (3 hours) ambulation post cardiac cath. / Percutaneous Coronary Intervention is as safe as normal (6 hours) ambulation period, as research findings revealed, after 3 hrs., 147 patients were ambulated. And after 6 hours, 115 ambulated. The rate of vascular complications was comparable between the groups (2.7 percent vs 2.6 percent, p=0.97) in a total of 262 patients and showed that there were no variations between the two groups. In order to enhance the comfort of patients and speed up patient discharge from the hospital, the researcher proposed encouraging early ambulation policy after cardiac cath /Percutaneous Coronary Intervention from femoral artery.

Hamon et al. (2012) After cardiac catheterization, silent cerebral infarcts were studied and aimed at evaluating the occurrence of SCIs after cardiac catheterization in multicenter trials and whether or not the choice of the arterial access site may influence this phenomenon, radial catheterization were 83 patients and 77 were femoral, with the detection of new cerebral infarction on serial diffusion-weighted magnetic resonance imaging as the key outcome measure. The finding found that the proportion of SCI did not vary between radial and femoral and independent SCI predictors were the higher height of the patient and the lower transvalvular gradient researcher concluded that SCI in patients with aortic stenosis had a high prevalence after CC, but the event was not influenced by radial or femoral selection.

In minimizing complication post CC Rezaei-Adaryani et al. (2009) conducted a study to find the effect on patient outcomes of switching posture and early ambulation after cardiac catheterization has been studied. And the objective was to determine the impact of changing position and early ambulation on the level of ease, satisfaction and exhaustion, and on the level of bleeding and hematoma following cardiac catheterization. The study was a single-blind, randomized controlled trial and patients were randomly assigned to control or experimental groups by researchers. For the first 6 hours after cardiac catheterization, the position of patients in the experimental group modified from time to time, Patients can ambulate and conduct their self-care activities 7 hours after the procedure. There was a pillow placed under the bodies of the patients. But the control group handled as routine; they have 10-24 hours to remain set bed rest. In the supine position and the strait of the affected leg and immobilized for 8 hours with a sand bag on the puncture spot. Also at least. The investigator

assessed the degree of comfort, satisfaction and fatigue, and the amount of bleeding and hematoma; the study revealed high comfort and lower fatigue levels in the experimental group at regular intervals after the procedure compared with the control group at 3, 6, 8 hours. And after CC the next morning. the current protocol for adjusting patients' positioning in experimental group had no substantial increase bleeding and hematoma as compared with the control group.

2.5 Performance evaluation of nursing care:

Yan et al. (2011) aimed to investigate the outcome of management participation in work to revise CC clinical pathway operating procedure, study subjects that that researcher used to revise the CC clinical pathway were BNHI-qualified cases for Tw-DRGs 125 payment principles and compared pre- and post-intervention value in mean of patients' volumes, medical care fees, healthcare quality, and length of hospital stay, in addition financial risk. Research result showed in precardiac catheterization nursing car had significant difference in completion rate, mean length of hospital stay, diagnosis numbers, surgical treatment numbers, and numbers of complications or comorbidities. Medical utilization was also significantly lower ($p < .05$) after revision implementation, researcher conclude hospital finance and medical care quality were improved.

McCabe et al. (2001) conducted study for Evaluation of nursing care after diagnostic coronary angiography. Patients who received cardiac catheterization for 6 hours of rest to reduce the possibility of bleeding from the incision site of the femoral artery were restricted the aim of the study was to determine the prevalence of complications from a femoral artery incision after diagnostic coronary angiography, compare the complication rates in this study

with those of previous studies; And identifying the patients or practice characteristics associated with the complications. The records of 306 patients were retrospectively reviewed for the complications of the femoral artery incision by using the Wilcoxon rank sum for evaluating each of characteristic and presence of complications. The complication rates were close to those of the previous studies and the findings encourage a continuation of the existing patient care guideline following diagnostic coronary angiography.

Thomas and Longo (1976) published an article on care of patients after cardiac catheterization. The article confirming that knowing post CC complications were recognized by the nursing action, any procedure may develop complication so nursing care and quick evaluation is verry important to prevent these complications. “They have enlisted the possible complications of cardiac catheterization which the nurses may encounter. This is divided into possible causes and their plan of action.”

3. Chapter Three: Methodology

3.1 Introduction

This chapter explains the methodology for the study Nurses' Knowledge, Attitudes, and Practices of patient safety after cardiac catheterization. The researcher used self-administered questionnaire to gather data in order to answer the research questions and achieve its objectives. The study design is quantitative, cross-sectional, non-observational study assessed Nurses' Knowledge, Attitudes, and Practices of patient safety after cardiac catheterization at governmental and nongovernmental hospitals, and other contributing factors that related to cardiac catheterization or caring of patient's post cardiac catheterization at Palestine Central and Southern West Bank. Moreover, this chapter will define the study (population, setting, and design), sampling criteria, data collection process, and the procedure of statistical analysis and results.

3.2 Research design

The study used quantitative, cross-sectional method, descriptive study, this design is appropriate to my study due to approximately all previous studies conducted to assess KAP were used this research design. So, it's the most suitable design to achieve the aim of this study. A cross-sectional study usually used to take a look for the data from population at 1 specific point in time. The quantitative study: the researcher used to make systematic investigation, and the data type is quantifiable data that can performed statistically (Setia, 2016).

3.3 Study setting

The study is conducted at Palestinian Central and Southern West Bank governmental and nongovernmental hospitals that are having health services for cardiac catheterization and nurses caring of patient's post cardiac catheterization who working at (Emergency, CCU, ICA and Cardiac Catheterization) departments, in Hebron city the nongovernmental hospitals include AL-Ahli and Al-Mizan hospitals, In Bethlehem city, Bethlehem Arab Society for Rehabilitation hospital was included in the study. In Ramallah city, the Palestinian Medical Complex is included. In Jerusalem city, Makassed Hospital is also included in the study.

3.4 Study population

Study population includes all 240 nurses who are distributed in all (Emergency, CCU, ICU and Cardiac Catheterization) departments in Palestinian Central and Southern West Bank governmental and nongovernmental hospitals holding bachelorette nurse, diploma, MSN or PHD nurses and their position of work, 20 nurses of the population study was excluded to make pilot study on them. The final number is 220.

3.5 Study sample:

Nurses sampling technique: the researcher visited the above-mentioned hospitals in all shifts for 3 rounds to increase the number of participants as much as possible, and distributed questionnaires to all nurses who are working at ER, CCU, ICU, and cardiac catheterization departments. This is an accidental sampling technique (sometimes known as grab, convenience or opportunity sampling) which is a type of non-probability sampling that involves the sample being drawn from that part of the population which is close to hand (Etikan, 2016). That is, participants are selected because they are readily available and convenient. It may be through meeting the person or including a person in the sample when one meets them.

nurses who responded by filling up the questionnaire was 212 with 96% response rate, this achieved after 3 rounds of distribution of the questionnaire, nurses working at (Emergency, CCU, ICA and Cardiac Catheterization) departments were included in the study. The study sample distributed in Palestinian Central and Southern West Bank governmental and nongovernmental hospitals as shown in the table (1) below.

Table 3-1: Distribution of nurses in above-mentioned hospitals

No.	Hospital Name	(Count)	%
1	Ramallah PMC (Palestinian Medical Complex)	(58)	27.3
2	Bethlehem (Bethlehem Arab Society for Rehabilitation Hospital)	(21)	10
3	Hebron (AL-Ahli Hospital)	(52)	24.5
4	Hebron (Al-Mizan Hospital)	(39)	18.4
5	Jerusalem (Makassed Hospital)	(42)	19.8
Total		(212)	100%

3.6 Inclusion criteria:

All nurses who are working at (Emergency, CCU, ICU and Cardiac Catheterization) departments at targeted hospitals that are caring of patients after performing cardiac catheterization and have at least 1 year experience at nursing profession.

3.7 Exclusion criteria:

Nurses who have experience less than 1 year at (Emergency, CCU, ICU and Cardiac Catheterization) departments, also other departments were excluded.

3.8 Instrument of the Study

By using a self-administered questionnaire, data were being collected after obtaining the approval of the ministry of health and Arab American University ethical boards. The questionnaire took about 8-10 minutes to be filled out.

Five-parts questionnaire written in Arabic that translated from other study Feroze et al. (2017) which was developed by Arathy, (2011), the translation done by Mr. Ayyoub Al Ayyouby who has a master degree in applied linguistic and English learning, questionnaire modified as required to make it as 5-points Likert scale, in addition, for adding attitude part which was added through questions gleaned from other study Bognár et al. (2008) and developed with my advisor to meet the goal of the study. Questionnaire was reviewed by 4 academic experts in nursing (appendix 7.2). They were:

- Dr. Kifah Al Zaban
- Dr. Yousef Jaradat
- Dr. Ahmad Al Batran
- Dr Mohammad Al Jallad

Most of their edits and comments were not in the main structure of the questionnaire, but on language and arrangement of the questions.

The final questionnaire consisted of five parts:

- Part 1. Social demographics section: There are 14 questions about general demographic information's as: gender, age, marital status, qualifications, current position, type of hospital working in, monthly salary, department working in now, does the institution have continuous courses for cardiac care, participation in cardiac care courses, the last course participated in, number of years' experience at nursing profession, number of years of experience in cardiac care departments and the number of years of experience in the department you are currently working in.

- Part 2. This section contains 22 questions used to assess the Knowledge of nurses toward cardiac catheterization and its complications with other instructions should be explained to patient's. The Participants were asked to answer (√) at their Squire of choice. The answers options were: Strongly agree, Agree, Neutral, Disagree and strongly Disagree.

- Part 3. This section contains 15 questions that examine the participants attitudes toward patients' safety post cardiac catheterization. The answers options also varied from strongly disagree, disagree, neutral, agree and strongly agree.

- Part 4. Practices of nurses toward patients' safety post cardiac catheterization. were assessed through 13 questions. The nurses were asked to use (√) at their place. The answers options also ranged from Strongly agree, Agree, Neutral, Disagree and strongly Disagree.

- Part 5. Preventive measures and hospital standards which consist of 13 questions developed with supervisor to answer some of sub questions.

3.9 Validity and reliability

The questionnaire was sent to four academic nursing doctors and experts in research to assess the validity of the questionnaire. Modification was done according to comments. Also, internal consistency reliability using Cronbach's alpha coefficient as below.

Table 3.9 1: Cronbach alpha for each element

Dimensions	number of phrases	Cronbach alpha
Knowledge	22	0.84
Attitude	15	0.85
Practice	12	0.88
KAP	49	0.83
Institutional measures	13	0.86
All tools	62	0.85

3.10 Pilot study

The researcher conducted a pilot study in AL-Ahli Hospital at (emergency, CCU, ICU and cardiac catheterization) department on a convenience sample of 20 nurses before starting the actual study. The pilot study was intended to identify expected problems before the data collection procedure, and the appropriateness of the items in the questionnaire. This step helped me to evaluate and ensure the clarity of the questionnaire's words form the participants' viewpoint. Their comments showed that the items were suitable, clear, comprehensive, not confusing and were easy to complete.

3.11 Analyzing method

The data from questionnaires entered and analyzed by using Statistical Package for Social Science (SPSS) version 24. Continuous variables expressed as means and standard deviations as appropriate. Frequencies and percentages were calculated for all categorical variables. The wording of some questions has been changed while preserving the value of the participant answer.

3.11 1 points of Likert scale

Very high	High	Moderate	Low	Very low
5	4	3	2	1

3.12 Ethical consideration

Permission was obtained from the ethical board at nursing faculty in the AAUP and Palestinian ministry of health to conduct the study in (emergency, CCU, ICU and Cardiac Catheterization) departments of Palestinian Central and Southern West Bank governmental hospitals and from the administration of the nongovernmental hospitals. All participants' approval obtained verbally before the data were being collected. The participants informed that they have the right to participate or to withdraw from the study and to not answer any sensitive question. Respect for personal beliefs in whatever. Choosing the right place to collect the information was considered. Names are not required during participation in the study, participants were assured that the data of this study are used only for research purposes and nobody can reach the information of any participant.

Chapter 4: The results of the study

Study approach

The researchers in this study used the descriptive analytical approach which helps to understand the present situation and to make plans for future. It also gives an idea about the level of nurses' knowledge, attitudes, practice (KAP) about patients' safety after cardiac catheterization.

A random sample of 212 nurses participated in this study as clarified in Table 4.1, with a response rate of 96%.

Table 4.1: Demographic characteristics of participants (n=212)

Variable	Sub variable	N	(%)
gender	Male	134	(63.2)
	Female	78	(36.8)
Nurses age	21 – 25 years	77	(36.2)
	26- 30 years	64	(30.2)
	31 – 35 years	46	(21.7)
	36 – 40 years	12	(5.7)
	More than 41 years	13	(6.1)
Marital status	Single	86	(40.6)
	married	126	(59.4)
Qualification	Diploma	23	(10.8)
	Bachelors	160	(75.5)
	High diploma	13	(6.1)
	Master	14	(6.6)
	PhD	2	(0.9)
Current position	Qualified Nurse	28	(13.2)
	Registered Nurse	156	(73.6)
	Head Nurse Assistant	14	(6.6)

	Head Nurse	14	(6.6)
Type of the Hospital	Governmental	59	(27.8)
	Non-governmental/National	44	(20.8)
	Private	109	(51.4)
Monthly salary*	less than 3000	38	(17.9)
	3000-4000	72	(34.0)
	4000-5000	56	(26.4)
	more than 5000	46	(21.7)
Department you work in	Emergency	58	(27.4)
	Cardiac care	78	(36.8)
	Cardiac catheterization	21	(9.9)
	Intensive care	55	(25.9)

*Israeli shekels (1$ =3.46 shekels).

During the main study, 220 questionnaires were distributed, 212 participants completed the questionnaires, this constitutes a response rate of 96%. According to Table 4.1, most of the participants were male (63.2%); while (36.8%) were female. The majority of nurses where between 21 to 25 age group (36.2%), followed by 26 to 30 age group (30.2%), then 31 to 35 age group (21.7 %), and lastly above 41 years old (6.1%). The majority of participants are married (59.4%).

It is clear that most of nurses have a Bachelor's degree (75.5%) while a good number was with Diploma (10.8%). Regarding their employment position, most of nurses are registered nurses (73.6%) and qualified nurses 13.2%. Although, most of nurses worked at private hospitals (51.4%), followed by (27.8%) at governmental hospitals and (20.8%) worked in Non-governmental/National hospital. Moreover, most of nurses (36.8%) worked at cardiac care unit, followed by (27.4%) in emergency unit. Most of the nurses have a salary (34.0%) between 3000 and 4000 shekels. Nurses working in cardiac catherization departments featured as young with short experience with mean 7.4 (SD 0.9) of years of experience in the nursing profession (table (4.2).

Table 4.2: averages of professional experience of participant nurses

	Mean	SD
Number of years of experience in the nursing profession	7.43	0.90
Number of years of experience in cardiac care departments	4.08	7.30
The number of years of experience in the department you are currently working in is	5.16	5.24

On another hand most of the participant (76.4%) agree that their institution have continuous courses for cardiac care, as described in table (4.3) that shows the departmental qualities related to Cardiac Catheterization services.

Table 4.3: characters of the participants department

	Yes	No
Does your institution have continuous courses for cardiac care?	152 (76.4%)	50 (23.5%)
Have you participated in cardiac care courses?	160 (75.5%)	52 (24.5%)
Does the department where you work have ECG sheets available all the time	206 (97.2%)	6 (2.8%)
	Mean	SD
The number of patients with complications after cardiac catheterization and under your responsibility during the past month is	1.07	2.48
The number of patients who had complications after performing cardiac	1.41	3.06
The number of beds in the department in which you work in is	12.13	7.15

The number of cardiac monitors in the department you work in is	8.20	6.73
The number of ECG machines in your department is	1.97	2.23

To verify the validity of the tool of study, it was presented to a group of reviewers who are specialized in this field. All their notes were taken into consideration. In addition, to check the reliability of the tool it was applied on a sample of nurses, which included 20 males and females other than those in the sample. Table 4.4 displays the Cronbach alpha reliability measure. Reliability is defined as the extent to which an instrument consistently measures a concept.

Table 4.4: Cronbach alpha for each element

Dimensions	number of phrases	Cronbach alpha
Knowledge	22	0.84
Attitude	15	0.85
Practice	12	0.88
KAP	49	0.83
Institutional measures	13	0.86
All tools	62	0.85

From Table 4.4, it's observed that the reliability is high among the dimensions measuring extent of nursing KAP of cardiac catheterization. This mean that the questionnaire was a reliable and valid instrument to explore the knowledge, attitudes, and practices. The questionnaire was self-administered.

Results of study

In order to explain the results of the study, Likert scale traditional analysis and key is used as presented in the following table.

Table 4.5: Likert scale key

Mean	scale
2.33 -1	low
2.34 – 3.66	intermediate
3.67 - 5	high

KAP scores of different persons according to demographic characteristics were compared with independent- samples t-test and one-way analysis of variance (ANOVA), as presented in the next section.

The level of knowledge, attitudes, & practice (KAP) among nurses about patients' post cardiac catheterization

Here the means and the standard deviations were calculated according to the perception of nurses KAP about patients' post cardiac catheterization in addition to the institutional measures variable as shown in Table 4.6.

Table 4.6: Mean and standard deviation for the dimensions of KAP & institutional measures to care for patients' post cardiac catheterization

Variable	Number of phrases	Mean	SD	Level
Knowledge	22	3.52	0.48	intermediate
Attitude	15	3.65	0.47	intermediate
Practice	12	4.23	0.59	high
KAP	49	3.75	0.39	high
Institutional measures	13	3.66	0.74	intermediate
`All tools	62	3.73	0.40	high

From Table 4.6, the knowledge score shows a mean of 3.52 with a SD of 0.48, It therefore indicates that nurses have adequate knowledge about patients' post cardiac catheterization. The attitude's mean of 3.65 (SD 0.47) indicates that nurses have positive attitudes. The practice score shows a high practice mean of 4.23 with SD of 0.59, which means that nurses' perception was good regarding patients' post cardiac catheterization. Institutional measures' mean of 3.66 with a SD of 0.74 give an intermediate indicator.

The level of nurses' knowledge, attitudes, practice and institutional measures concerning health care for patients post cardiac catheterization is good with the mean score of 3.73 and SD=0.40.

The level of knowledge among nurses about patients' post cardiac catheterization

Here the means and standard deviations are calculated to measure nurses' knowledge of care post cardiac catheterization as shown in Table 4.7.

Table 4.7: Mean and standard deviation of nurses' knowledge about post cardiac catheterization

Knowledge	Mean	SD
The formation of a blood clot is one of the main complications of the operation site of cardiac catheterization	4.10	0.87
A hernia can occur in the artery in which a stent or balloon has been placed, even if it is appropriate for the patient's situation	4.04	0.70
Patients who have had stent implants should follow a special diet	4.01	2.92
Obese patients are more likely to develop complications after cardiac catheterization	3.91	0.87
After the catheterization, if the patient suffers from chest pain and changes in the electrocardiogram, this indicates a heart attack as a complication of the catheterization.	3.80	0.87
Heart patients should stay away from unsaturated fats	3.79	1.03
The good cholesterol is HDL (high-density lipoprotein)	3.77	1.18
An increase in the number of ventricular contractions in the heart on the electrocardiogram is a complication that may occur after cardiac catheterization	3.77	0.88
After cardiac catheterization, the patient is advised to do light sport activities to restore heart activity.	3.77	1.05
The serum creatinine level should be checked immediately after cardiac catheterization	3.76	1.06
A stroke is a complication of cardiac catheterization	3.69	0.96
When the pulse disappears in the limb in which the operation was performed, this indicates the formation of a blood clot	3.67	0.96

After the cardiac catheterization operation, the patient must be kept lying on the bed at a 45-degree angle	3.49	1.12
When there is subcutaneous hemorrhage, the extremities of the body of the cardiac catheterization should be raised.	3.42	1.10
One of the complications associated with removing the wound sheath is the formation of air embolism.	3.38	1.18
Blood clot is one of the most important complications that occur to the patient after the catheterization that was made from the radial	3.31	1.09
The presence of swelling at the site of the operation is one of the most important signs of the formation of a thrombus at the site of the cardiac catheterization operation.	3.23	1.03
The effect of the radioactive dye on the kidneys appears one week after the operation.	3.08	1.16
The limb from which the operation was performed must be kept immobilized for a period not less than 12 hours.	3.06	1.18
The patient is prevented from taking thrombolytic or anticoagulant on the day of the operation only	2.93	1.14
There are more complications occur after catheterization from the radial than from the complications of catheterization from the femoral	2.77	1.16
Intravenous fluids should not be given immediately after cardiac catheterization	2.67	1.24
Total	3.52	0.48

According to Table 4.7, the majority of nurses strongly agreed about "The formation of a blood clot is one of the main complications of the operation site of cardiac catheterization " which have a high mean (4.10±0.87). Moreover, participants scored low for the item (Intravenous fluids should not be given immediately after cardiac catheterization) a mean of 2.67 ± 2.24.

The level of attitude among nurses about patients' post cardiac catheterization?

Here the means and standard deviations are calculated to explore nurses' attitude about patients' post cardiac catheterization as shown in Table 5.

Table 4.8: Mean and standard deviation of the sample respondents for the nurses' attitude about patients' post cardiac catheterization.

Attitudes	Mean	SD
The first factor: The Team Climate	3.87	0.77
It's easy to ask questions if there's something you don't understand	3.93	0.80
New employees receive proper training about patients' care especially after cardiac catheterization	3.91	0.78
Nursing with more experience explain the operation and how to take care of patients	3.85	0.82
Cardiac catheterization patient care staff is informed of how the catheterization operation is done	3.72	0.97
In cardiac catheterization departments, it is difficult to speak if you notice a problem in patient care	3.42	1.18
The second factor: Safety Climate	3.90	0.78
I take suitable decisions during a medical emergency situation in the department.	4.06	0.70
I receive proper feedback for my performance.	3.95	0.79
The nature of the work in the department helps to learn from the mistakes of others	3.91	0.75
The new nurse should not doubt the decisions of the old nurse	3.67	1.10
when there is disturbance in the working environment, patient's safety is not affected negatively.	3.25	1.16
It is difficult to discuss the mistakes that occur in the cardiac care department between the nursing and medical staff	3.10	1.15
The third factor: The Stress Recognition	3.87	0.84

Fatigue does not impair my performance during critical stages of patient care	3.67	1.06
Work pressure at a high level is common in cardiac catheterization departments	3.59	1.05
Stress caused by personal problems negatively affects my performance	3.38	1.11
When the workload becomes too much, my performance decreases	3.38	1.10
Total	3.65	0.47

According to Table 4.8, the majority of nurses (4.06±0.70) agreed with the attitude item "I take suitable decisions during a medical emergency situation in the department" from the second factor: Safety Climate. The statements have a positive practice and a high mean. Although, the participants have agreed moderately in item "It is difficult to discuss the mistakes that occur in the cardiac care department between the nursing and medical staff" which has the lowest mean (3.10±1.15) in the same factor.

The level of nurses' perception of their practice for patients' post cardiac catheterization.

Here the means and the standard deviations were calculated according to the nurses' reposes of their practices with patients' post cardiac catheterization as shown in Table 4.9.

Table 4.9: Mean and standard deviation of nurses' practices for patients' post cardiac catheterization

Practice	Mean	SD
I explain the care I will take after the operation	4.55	0.63
I monitor the catheter site if bleeding or hematoma under the skin occurs	4.50	0.64
I monitor the patient's vital signs every 15-30 minutes for two hours directly after the operation	4.28	0.82
I monitor skin color and temperature	4.27	0.80
I check the heart rate from the lower part of the limb from the place of the operation	4.27	0.84
I monitor the patient by doing an ECG	4.26	0.71
I assess the patient's pain stability	4.23	0.92
I place the patient in a lying position on the back after the operation	4.21	0.92
I encourage the patient to increase fluid intake	4.14	0.81
I monitor the quantity of the fluid the patient drinks and the quantity the patient excretes in the urination process (input and output)	4.14	0.86
I give appropriate instructions to the patient after the operation about the diet that he must follow	4.12	0.88
I give the patient appropriate instructions after the operation about the appropriate sports that he must do to maintain heart activity	4.08	0.93
I encourage the patient to cough and monitor if there is any discomfort in it	3.86	0.97
Total	4.22	0.59

From Table 4.9, we have a high average of practice 4.22±0.59. The majority of participants agree with the item "I explain the care I will take after the operation" with high mean of 4.55± 0.63. Where the lowest mean (3.86±0.97) for the practice item "I encourage the patient to cough and monitor if there is any discomfort in it".

The level of nurses' institutional measures to care for patients' post cardiac catheterization

The means and the standard deviations are calculated according to participants perception of their institutional measures to care for patients' post cardiac catheterization as presented in Table 4.10.

Table 4.10: Mean and standard deviation of institutional measures for post cardiac catheterization.

Institutional measures	Mean	SD
The head of the department follows up the condition of all patients who undergo cardiac catheterization operations	3.99	0.94
Personal protective equipment needed to handle patients is available in the hospital at all times	3.84	0.94
The head of the department is reviewed by the administration about each incident report submitted for complications after cardiac catheterization in the department	3.77	1.04
hospital administrators and observers monitor the extent of nurses' knowledge of cardiac care	3.76	1.03
This hospital is well prepared in terms of knowledge, training and equipment necessary to taking care of patients after cardiac catheterization	3.76	1.09
I believe that the policies, standards and systems of cardiac care are sufficient to protect patients after undergoing the operation	3.75	1.06
A nurse who takes care of a patient with complications of cardiac catheterization will write an incident report and submit it to the administration.	3.74	1.04
There is a special form for patients before and after they undergo cardiac catheterization operations	3.66	1.07
There is periodic monitoring of the files of patients undergoing cardiac catheterization by the Quality Committee	3.61	1.04

A committee in the hospital monitors and follows up the nurses' work on dealing with patients before and after the operation	3.50	1.03
Nurses participate in courses/workshops about cardiac catheterization and possible complications	3.48	1.05
The ALDRETE score is measured before and after the patient enters the operating room	3.42	1.21
The Department of Continuing Education is responsible for running continuous courses of cardiac care in the hospital where I work.	3.28	1.16
Total	3.66	0.74

From Table 4.10, participants agreed about the institutional measure "The head of the department follows up the condition of all patients who undergo cardiac catheterization operations " with high mean 3.99±0.94. On the other hand, nurses agree with the item "The Department of Continuing Education is responsible for running continuous courses of cardiac care in the hospital where I work" with the lowest mean score of 3.28±1.16. In general, the institutional measures average is 3.66 ± 0.74 which indicate a moderate institutional measure.

In order to explore the significance of the demographic variables with the KAP dimensions and institutional measures among nurses about patients' post cardiac catheterization the results depicted in Table 4.11.

Table 4.11: The KAP dimensions among nurses about patients' post cardiac catheterization scores grouped by demographic characteristics.

	Knowledge		Attitude		practice		KAP		Institutional measures	
Variable	M ± SD	p	M ± SD	p	M ± SD	p	M ± SD	p	M ± SD	p
Gender										
male	3.52±0.49	0.90	3.66±0.5	.80	4.18±0.6	0.12	3.73±0.4	.62	3.61±0.8	0.17
female	3.52±0.48		3.65±0.4		4.31±0.5		3.76±0.4		3.75±0.7	
Age in years										
21 – 25	3.52±0.5	0.00	3.72±0.4	0.0	4.39±0.6	0.00	3.80±0.4	0.0	3.70±0.7	0.07
26- 30	3.54±0.4		3.69±0.5		4.12±0.6		3.74±0.4		3.69±0.6	
31 – 35	3.53±0.4		3.51±0.4		4.12±0.5		3.68±0.3		3.59±0.7	
36 – 40	3.85±0.2		4.04±0.7		4.51±0.5		4.08±0.4		3.99±0.9	
≥ 41	3.14±0.5		3.24±0.4		3.88±0.6		3.37±0.4		3.19±0.8	
Marital Status										
Single	3.52±0.5	0.90	3.75±0.4	0.01	4.36±0.5	0.00	3.81±0.4	.04	3.77±0.7	0.03
Married	3.52±0.4		3.58±0.4		4.14±0.5		3.70±0.4		3.60±0.7	
Qualification level										
Diploma	3.38±0.5	0.07	3.76±0.5	0.20	4.17±0.5	0.90	3.70±0.4	.25	3.68±0.6	0.06
Bachelors	3.51±0.5		3.62±0.4		4.22±0.6		3.72±0.4		3.64±0.7	
High diploma	3.63±0.5		3.84±0.5		4.32±0.4		3.87±0.4		3.83±0.6	
Master	3.71±0.4		3.82±0.6		4.23±0.5		3.88±4		4.15±0.6	
PhD	4.18±0.2		3.70±0.6		4.46±0.7		4.11±0.6		4.15±0.5	
Monthly income in shekels										
< 3000	3.47±0.5	0.50	3.83±0.4	0.09	4.44±0.5	0.05	3.82±0.3	0.33	3.70±0.7	0.07
3000-4000	3.54±0.6		3.64±0.5		4.23±0.6		3.75±0.4		3.64±0.8	
4000-5000	3.47±0.5		3.62±0.4		4.11±0.6		3.68±0.4		3.50±0.6	
≥ 5000	3.60±0.4		3.59±0.5		4.15±0.5		3.74±0.3		3.87±0.6	
Current Position										
Qualified Nurse	3.38±0.5	0.40	3.87±0.4	0.06	4.24±0.5	0.90	3.75±0.4	0.90	3.57±0.6	0.60
Registered Nurse	3.64±0.5		4.22±0.6		3.66±0.7		3.75±0.4		3.65±0.7	

Assistant Head Nurse	3.53±0.20		3.54±0.30		4.23±0.40		3.71±0.20		3.71±0.40	
Head Nurse	3.54±0.50		3.53±0.40		4.27±0.40		3.72±0.30		3.90±0.70	
Department you work on										
Emergency	3.63±0.50	0.05	3.85±0.50	0.00	4.32±0.60	0.12	3.87±0.40	.02	3.85±0.70	0.13
Cardiac care	3.41±0.50		3.67±0.40		4.29±0.60		3.72±0.40		3.56±0.80	
Cardiac catheterization	3.47±0.30		3.40±0.40		4.09±0.60		3.61±0.20		3.58±0.40	
Intensive care	3.57±0.40		3.52±0.40		4.10±0.50		3.70±0.30		3.64±0.70	
Hospital type										
Governmental	3.56±0.40	0.09	3.67±0.50	.9	4.21±0.50	0.50	3.76±0.40	0.80	3.56±0.70	.4
Non-governmental/National	3.64±0.40		3.64±0.50		4.15±0.50		3.77±0.30		3.77±0.60	
Private	3.46±0.50		3.66±0.50		4.27±0.70		3.73±0.40		3.68±0.80	

From Table 4.11, there is a significant association between KAP and Marital Status. The high practice mean was for the single nurses (3.81±0.40, p-value=0.040) rather than the married nurses. For the KAP dimension, there is a significance association related to age for the nurses age 36 to 40 years with mean (4.08±0.40, p-value= 0.0001). All the variables are not significant for knowledge dimension. The high attitude for the workers who works at emergency unit (3.85±0.50, p-value= 0.0001). For the institutional measure dimension, there is a significant association between institutional measure and marital status as in KAP case. The institutional measure is in the single nurses (3.77±0.70, p-value=0.03) than the married nurses.

There is relationship between hospitals' measures and KAP

In order to assess this relationship, Pearson correlation between the three dependent variables (KAP) and independent variable (intuitional measures) is used.

From Table 4.12 the association between knowledge and attitudes is 0.356. The association between institutional measures and knowledge is 0.482, association measure between institutional measures and attitudes is 0.516, there is a positive association between institutional measures and practice (Pearson correlation is 0.440). Furthermore, the correlation between the institutional measures and KAP variables (which indicates moderately strong positive linear relationship that institutional measures share with KAP) is positive.

Table 4.12: Correlations between KAP variables and intuitional measures

		Knowledge	Attitude	Practice	Institutional
Knowledge	Pearson Correlation	1	.356**	.331**	.482**
	Sig. (2-tailed)		.000	.000	.000
	N	212	212	212	212
Attitude	Pearson Correlation	.356**	1	.534**	.516**
	Sig. (2-tailed)	.000		.000	.000
	N	212	212	212	212
Practice	Pearson Correlation	.331**	.534**	1	.440**
	Sig. (2-tailed)	.000	.000		.000
	N	212	212	212	212
Institutional	Pearson Correlation	.482**	.516**	.440**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	212	212	212	212

**. Correlation is significant at the 0.01 level (2-tailed).

If the level of significance is 0.05 or less, the compared group is considered to be significantly different. In conclusion, a positive correlation is a relationship between variables in which an increase in one variable is associated with an increase in the other. All the correlation between institutional measures variable is positive with KAP variables even if it's weak. The results indicates that knowledge, attitude and practice will move in the same direction of the institutional measures, i.e., if one of them increase then the others will also increase.

Results summary:

As can be clearly noticed, that larger part of the sample are males forming (63%), young -their ages range from 21-25 years old (36%)-, most of them are working at cardiac catheterization department (37%), more than half of them are married (59%), and the majority of them have bachelor's degree (75%).

The study showed that the overall level of nurses' knowledge, attitudes, and practice concerning health care for patients post cardiac catheterization is good with the mean score of 3.75 and SD=0.39 and level of knowledge that responders have is intermediate with over all knowledge mean score 3.5±0.49, as shown above there's no significant association between knowledge and any of sociodemographic variables. But when comparing mean in knowledge and qualification there is trend in qualification level (p-value=0.070), also study found significant difference between knowledge and practice (p-value=0.000).

In attitude dimension, study confirmed that most of nurses have positive attitude related to patients' safety after cardiac catheterization with over all attitude mean score 3.65±0.47, there is a statistically significant difference between nurses' attitude and age p-value= 0.0, young nurses have positive attitude 3.72±0.40 who is between 21-25 years old, also nurses who working at emergency department have positive attitude 3.85±0.50, in addition for married nurses 3.75±0.40.

Where nurses at study sample have high practice with over all practice mean score 4.23±0.59, young nurses also have high practice than others with mean (4.39±0.60) this found from the statistically significant difference between practice and age group at p-value=0.00. Practice has strong association with institutional measures (Pearson correlation is 0.660).

The total KAP score is statistically significant with sociodemographic variables: age, marital status, and department that nurses working in (with p-value=0.0, p-value=0.04, p-value=0.02 consequently), and there's trend in qualification level.

Finally, the study showed relationship between institutional measures variable with KAP variables by using Pearson correlation. The association between knowledge and attitudes is 0.356. The association between institutional measures and knowledge is 0.482, association measure between institutional measures and attitudes is 0.516.

Chapter five: Discussion, Conclusion, Recommendations and Limitations

5.1 Introduction for Discussion:

This chapter discusses the relevant descriptive statistical results to explore and identify the relationship between different study variables; also, it discusses the findings of the study in comparison with related literature and it connects the results with each other and looks comprehensively at the results and their justifications, as well as, its practical implications that might help nursing professionals in order to improve their knowledge, attitudes, and practice, in addition to identify the contributing factors influence nurses' KAP which will affect patients' safety.

For evaluating coronary anatomy and to assess heart disease, catheterization is considered an appropriate treatment option, which may provide additional details for proper care (Knopp, 2009). Cardiac catheterization is safe to patients and can save them from life-threatening conditions, but still has possible risk for complications, these complications divided in two main parts, minor complications and major complications that may cause death. The incidence of complications and mortality are less than 2% and 0.08% (Tavakol et al., 2012), so nurses need to improve their knowledge, attitudes, and practice when they are providing care to patients post CC (Fleih Hassan, 2015).

5.1.1 Demographic Variables comparison

Concerning demographic data, the majority of the participants of the study are males forming (63.2%), like Yaqoob et al. (2019) study where the majority of the participants are also males forming (58.6%). But Hasballah et al. (2019) study, the majority of the participants are females forming (62.5%), besides Henedy & El-Sayad (2020) study, the majority of the participants are also females (80%). From the researcher's point of view, the reason for these results is that the departments where the study was conducted are intensive care departments which need careful staffing considerations. Hospitals usually employ males more than females in these departments because females have some long-term holidays such as maternity leave, and this may affect negatively on the care provided to patients in these departments, as it will need to hire new nurses to make up for the shortage and retrain them in intensive care.

The majority of nurses in the study were between 21 to 25 age group (36.2%), which go in line with Hasballah, et al. (2019) which shows that (37.5%) of the study participants were younger than 25 years, in addition to Fleih (2017)'s majority of nurses ages were between 20 and 25 years (36%). This reflects those hospitals choose young nurses to work in these departments because they are full of vitality and energy, and are able to provide the required care in a highly demanding environment. The majority of the study participants were married (59.4%) which agreed with Fleih (2017) who showed (56%) of the participants were married.

The results of the study show that most of participants has bachelor's degree forming (75.5%), which go in line with who showed that the educational level of most of the participants was bachelor's degree forming (91.1%). But this disagree with Feroze, et al. (2017)'s who found that most of nurses have diploma (48.5%), and bachelor's degrees were (22.8%). It's also disagrees with who found that the majority of the study sample have diploma degree (88.5%). From the researcher's point of view, these results are supportive of the ages of the participants. So that the ages are mostly young as mentioned before, and here most of the participants have a bachelor's degree, and this means that the trend in hospitals to hire nurses with knowledge based on the scientific basis, that is, academic follow-up and scientific development to provide the best care for the patient that is based on a clear scientific basis.

The mean years of experience of participants in cardiac care departments is 4.08±7.3, but in Rolley et al. (2010) who conducted a study in Australia and New Zealand, the mean of responders' experience in cardiovascular settings is 12.3±7.61. The results of this study indicate the short-range of years of experience in the cardiac care departments. This may be due to the routine transfers that is carried out in hospitals routinely, in addition to the new employment. There may be an impact due to the Corona pandemic, so that new departments were established and many experienced nurses were transferred to these departments due to their long experience in nursing care.

5.1.2 Participants knowledge, attitude, and practice

Nurses' overall knowledge score mean is 3.5±0.49, which indicates that participants have intermediate knowledge of patients' safety post cardiac catheterization. The total knowledge scores ranged from 2.67±1.24 to 4.10±0.87. Nurses know what is the most important complication that might happen after cardiac catheterization procedure; for instance, the majority of nurses strongly agreed about "The formation of a blood clot is one of the main complications of the operation site of cardiac catheterization " which have a high mean 4.10±0.87. Thus, it is possible to protect patients and prevent these complications from occurring or reduce their severity.

These findings in knowledge go in line with previous study conducted in Punjab, India by Feroze et al. (2017) which found that most of nurses have good level of knowledge toward patients' safety post cardiac catheterization, the study agreed also with Arathysr (2011) who conducted a study in Trivandrum, which found that nurses have good level of knowledge about patients' safety post cardiac catheterization, also the findings of another study agreed with this result conducted by Ali et al. (2015). But the study doesn't go in line with previous studies conducted in Egypt by Mohammed Hasballah et al. (2019) which found that all nurses have poor knowledge, this also reported by another study conducted at Shebien El koom, Menoufia Governorate, Egypt by Henedy & El-Sayad (2020) who found that approximately half of the study sample have poor knowledge about cardiac catheterization (45%).

For attitude dimension, the overall attitude score mean is 3.65±0.47 this indicates that nurses have positive attitudes about patients' safety post cardiac catheterization. The total attitudes scores ranged from 3.10±1.15 to 4.06±0.70. The majority of nurses 4.06±0.70 agreed with the attitude item "I take suitable decisions during a medical emergency situation in the department" from the second factor: Safety Climate. The statements have a positive practice and a high mean. Although, the participants have agreed moderately in item "It is difficult to discuss the mistakes that occur in the cardiac care department between the nursing and medical staff" which has the lowest mean (3.10±1.15) in the same factor.

According to literature review, there are 2 studies disagreed with this study in attitude results. The first one conducted at Iran by Saberi et al. (2017) which showed poor attitudes of nurses related to patients' safety culture which mean negative attitudes. The second study was at Egypt by Mohammed Hasballah et al. (2019) which showed that (77.5%) of nurses had negative attitude toward patient safety in cardiac catheterization unit.

For practice dimension, the overall practice score mean is 4.23±0.59 which means that nurses' perception of their practice was good for patients' post cardiac catheterization, The total practice scores ranged from 3.86±0.97 to 4.55±0.63. The majority of participants agree with the item "I explain the care I will take after the operation" with high mean of 4.55± 0.63. Where the lowest mean but still considered high practice is (3.86±0.97) for the practice item "I encourage the patient to cough and monitor if there is any discomfort in it".

From the researcher's point of view, the high mean of practice is due to the strict protocols that should be followed and special sheets that must be filled in these departments. In addition to the policies set by the Quality and Control Office to be followed in the hospital to reach the highest level of care in the departments in which the study was conducted.

According to literature review there's a previous study agreed with this study conducted at India by Wankhede & Biradar (2019), which found adequate practice among cardiac nurses about patients' safety after cardiac catheterization, another study conducted by Arathysr (2011) found that nurses have adequate practice and Aziz & Lafi (2011) study's results showed that the practice of nurses is good. In the contrary, Feroze et al. (2017) found that nurses have poor practice about patients' safety post cardiac catheterization.

5.1.3 The relationship between demographic variables with KAP dimensions

The overall level of nurses' knowledge, attitudes, and practice concerning health care for patients post cardiac catheterization is good with the mean score of 3.75 and SD=0.39. There is no significant association between knowledge and type of hospital (p-value=0.09), but the highest knowledge mean was for nurses who are working in non-governmental hospital. On the other hand, there is no significant differences between knowledge and qualification level (p-value=0.07), but when comparing means, there is a trend in qualification level, mean increased with higher level of education as described in table 5.1.3.1

Table 5.1.3 1 Qualification level with mean of knowledge

Diploma	3.38±0.5
Bachelors	3.51±0.5
High diploma	3.63±0.5
Master	3.71±0.4
PhD	4.18±0.2

The findings of this study go in line with Hassan (2017) who found that there is no significant difference between nurses' knowledge about patients' safety post cardiac catheterization and their level of education (p-value=0.924). But Feroze, et al. (2017) found that there's a positive correlation between nurses' knowledge and level of education at p=0.024.

A statistically significant difference was found between nurses' attitude toward patients' safety post cardiac catheterization and sociodemographic variables: age of participants, departments they work in, and marital status (p-value=0.0, p-value=0.0, p-value=0.01 consequently). The highest mean of participant ages was for 21-25 years group (3.72±0.4), which means that younger nurses have positive attitude toward patients' safety post cardiac catheterization, the highest mean of department that nurses working in and having positive attitude is emergency department (3.85±0.5), and for marital status is for single nurses with mean (3.75±0.4).

From the researcher's point of view, the positive attitude with young single nurses, is due to low pressure on nurses at this age, so they can focus at their work and provide suitable care for patients. In addition, the positive attitude with nurses who are working in

emergency department due to nurses working in this department need to be alert and able to take quick decision making required to provide emergency care.

Findings of this study compatible with a previous study conducted in Egypt by Mohammed Hasballah et al. (2019) who found that there's a significant difference between nurses' age group and their attitude toward patients' safety (p-value=0.020), but the majority of positive attitude at Mohammed Hasballah et al. (2019) study was for age group >30 years (67%), this also agreed with Biresaw et al. (2020) study who found that age of nurses has a statistical significant with their attitude toward patients' safety. But it doesn't go in line with Ünver & Yeniğün (2020) who found that there's no statistically significant relation between nurses' age and their attitude.

The differences in this study are statically significant between nurses practice toward patients' safety post cardiac catheterization and age group (at p-value=0.0), the highest mean of practice is in the age group 21-25 years (4.39±0.6). This disagreed with (Yaqoob, et al., 2019) who found that no significant differences between nurses practice and their age (p-value=0.25), although their highest mean was for age group 25-29 years (10.7±2.4).

But this study found significant difference between knowledge and practice (p-value=0.000), so nurses can improve their knowledge through their experience in nursing profession. This result goes in line with Feroze, et al. (2017) who finds that knowledge and practice of nurses has statistically significant association.

The total KAP score relationship with sociodemographic variables is statistically significant with age, marital status, and department that nurses working in (with p-value=0.0, p-value=0.04, p-value=0.02 consequently). Furthermore, there is a trend noticed in nursing qualification mean, which indicates when the level of education increased this will increase the level of KAP for nurses toward patients' post cardiac catheterization which can be confirmed by the relation between total score of KAP and age, which the highest mean for age group 36-40 years old.

5.1.4 The relationship between KAP and Intuitional measures

Findings of this study showed that there's a positive correlation between institutional measures variable with KAP variables even if it's weak, which indicate that knowledge, attitude, and practice will change in the same way of the institutional measures. For example, if one of these variables increased the other variable will increase also. Participants agreed about the institutional measure "The head of the department follows up the condition of all patients who undergo cardiac catheterization operations " with highest mean of 3.99±0.94. On the other hand, nurses agree with the item "The Department of Continuing Education is responsible for running continuous courses of cardiac care in the hospital where I work" with the lowest mean score of 3.28±1.16.

In general, the institutional measures average is 3.66 ± 0.74 which indicate moderate institutional measures. From the researcher's point of view, this score of institutional measures could be the reason to make knowledge and attitudes less than practice as a total score.

Findings of this study agreed with new study conducted by Szerlip et al. (2020) about Considerations for cardiac catheterization laboratory procedures during the COVID-19 pandemic perspectives from the Society for Cardiovascular Angiography and Interventions Emerging Leader Mentorship (SCAI ELM) Members and Graduates, which emphasized the need to adhere to personal protective equipment.

Regarding institutional measures dimension and demographic variables, there is a significant association between institutional measures and marital status as in KAP case. The institutional measures mean is higher in single nurses (3.77±0.7, p-value=0.03) than married nurses. All other variables are not significant for institutional measures.

5.2 Conclusion:

To conclude this study, the researcher used quantitative, cross-sectional method, descriptive design to conduct this study, based on findings of this study, nurses have an adequate knowledge toward patients' safety post cardiac catheterization, they know most important signs of post complication which is the formation of blood clot, thus will keep patients safe from harm or deterioration of patients' condition, this was approved since 2011 in a study showed that nurses have a good knowledge. Study recommended to instruct nurses to increase their level of qualification in order to improve their knowledge which can clearly keep patients safe.

Where nurses have positive attitude toward patients' safety post cardiac catheterization, especially in attitudes connected directly with practice, when they can take a suitable decision in emergency conditions, thus also can reduce and minimize the damage that may happened to patients, this attitude changed in nurses age, their marital status, and the department they are working in.

in addition, nurses explain to patients the procedure, and they have a high level of practice toward patients' safety post cardiac catheterization this was affected by the knowledge that nurses have, when knowledge increased the level of practice also increased. Thus confirmed the importance of increasing the level of qualification of nurses in order to protect patients.

Furthermore, the strong effect of institutional measures on nurses' knowledge, attitude, and practice was evident. Although institutional measures are perceived as intermediate by nurses, but when it increased in the hospital it will found improving nurse knowledge, attitude, and practice.

5.3 Recommendation

As what discussed in the study results, it is recommended to improve the knowledge, attitude, and practice for nurses toward patients' safety post cardiac catheterization in 3 levels:

5.3.1 Operational level in hospitals:

1. Enhance the continuous education committee and empower their roles to follow up the nurses' education status.
2. Add in hospital policies, using ALDRETE score in cardiac catheterization laboratory.
3. Found appropriate special forms for patients before and after they undergo cardiac catheterization operations.
4. Establish a monitoring system on patients' status post cardiac catheterization to improve the patient safety outcome.
5. Establish a protocol for all nurses who will be accepted to work in cardiac care departments must have at least one course about cardiac catheterization.

5.3.2 Educational level:

1. Cardiac care nurses must be involved in international health care institution to improve their KAP level.
2. Establish a protocol for all nurses who will work in cardiac care units, must have at least bachelor's degree.
3. Add to nursing curriculum at universities, the basics of updated BLS and ACLS.

5.3.3 National level

1. Encourage the Palestinian Ministry of health to provide training courses about cardiac catheterization for nurses who are working at cardiac care unit to increase their KAP level toward patients' safety.
2. Continuous reviewing of Palestinian policies and protocols related to cardiac catheterization in order to keep them updated according to WHO protocols and recommendations such as COVID-19 pandemic.
3. Suggest to the researchers in our country to conduct more studies related to cardiac catheterization to enhance the KAP level.

5.4 Limitations:

The researcher faced many limitations during collection of study questionnaires and its analysis, these limitations as follow:

1. The study was limited on nurses who work at (emergency, cardiac care unit, intensive care unit, and cardiac catheterization) departments in Palestine governmental and non- governmental hospital.
2. Lack of time due to health care situation all around Palestine during covid-19 pandemic, so it makes the data collection more difficult.
3. The study did not include all government and non- governmental hospitals in Palestine, due to the restrictions of mobility between areas due to Quarantine on the pandemic areas.
4. High costs of transportation, collecting data process and its analysis.

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7. Appendix

In this chapter will include all study approval papers in addition to the study self-administered Questioner.

7.1 Governmental hospital approval

State of Palestine
Ministry of Health
General Directorate of Education in
Health and Scientific Research

دولة فلسطين
وزارة الصحة
الإدارة العامة للتعليم الصحي
والبحث العلمي

Ref.: .....
Date:.....

الرقم: ٢٠٢١/٤٤٠/١٦٦
التاريخ: ٢٠٢١/٣/٢٢

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،
الأخ مدير مجمع فلسطين الطبي المحترم،،،
تحية واحترام،،

الموضـــوع: تسهيل مهمة بحث

يرجى التكرم بتسهيل مهمة الطالب: **جواد ابو صبحة، ماجستير تمريض الطوارئ-الجامعة العربية الامريكية**، لعمل بحث بعنوان:

" **تقييم معرفة ومواقف وممارسة الممرضين حول سلامة المرضى بعد قسطرة القلب في مستشفيات الضفة** "

حيث سيقوم الطالب بجمع معلومات من خلال تعبئة استبانة من الممرضين (بعد أخذ موافقتهم)، مع العلم أن مشرف الدراسة: د. حسين جبارين.

وذلك في: **مستشفى بيت جالا – مستشفى عالیه**

- **مجمع فلسطين الطبي**

على أن يتم الالتزام بجميع تعليمات وإجراءات الوقاية الصادرة عن وزارة الصحة بخصوص جائحة كورونا، وتحت طائلة المسؤولية.

على ان يتم تزويدنا بنسخة من نتائج البحث والتعهد بعدم النشر.

مع الاحترام،،

د. عبد الله القواسمي
مدير التعليم الصحي والبحث العلمي

نسخة: مشرف الدراسة المحترم

P.O .Box: 14
Telfax: 09-2333901

Healtheducation.dep@gmail.com

ص.ب. 14
تلفاكس: 09-2333901

7.2 study self-administered questioner

بسم الله الرحمن الرحيم

تحية طيبة وبعد،،،

يقوم فريق البحث باعداد دراسة حول قياس مدى المعرفة والمواقف والممارسات لدى الممرضين حول سلامة المرضى بعد القسطرة القلبية. ولقد تم اختياركم كزء من عينة الدراسة بطريقة عشوائية، لذا نضع بين يدكم هذا الاستبيان راجين تقديم المساعدة، وذلك بالاجابة عن فقرات الاستبيان بدقة وموضعية لما له اثر كبير في الحصول على نتائج دقيقة، علماً بأن كل ما يذكر في اجابتكم سيكون موضع احترام وسوف يعامل بسرية تامة ولن يستخدم الا لأغراض البحث العلمي فقط، وعليه لا داعي لكتابة الاسم او اية معلومات تدل على شخصكم الكريم.

إن فريق البحث على استعداد لتزويدكم بنتائج هذه الدراسة في حال الطلب مع الشكر الجزيل لتعاونكم.

للاستفسار يمكنكم الاتصال:

0598532308

او المراسلة عبر البريد الالكتروني:

anwjawad@gmail.com

فريق البحث: جواد ابو صبحة

اشراف: الدكتور حسين جبارين

القسم الاول: الرجاء وضع (√) في (□) المناسب:

البيانات الشخصية:

1. الجنس: □ ذكر □ انثى
2. العمر: □21-25 □ 26-30 □31-35
□36-40 □41-45 □ أكثر من 45
3. الحالة الاجتماعية: □ أعزب □ متزوج □ غير ذلك
4. المؤهل العلمي: □ دبلوم متوسط □ بكالوريوس □ بكالوريوس+دبلوم عالي متخصص
□ ماجستير □ دكتوراه □ غير ذلك/حدد.....
5. المنصب الحالي: □ ممرض مؤهل □ ممرض قانوني □ مساعد رئيس قسم □ رئيس قسم □ غير ذلك/حدد.....
6. نوع المستشفى: □ حكومي □ غير حكومي/أهلي □ خاص
7. الراتب الشهري: □ اقل من 3000 □ 3000-4000 □ 4000-5000
□ أكثر من 5000 □ غير ذلك/حدد.....
8. القسم الذي تعمل به: □ الطوارئ □ العناية القلبية
□ القسطرة القلبية □ العناية المكثفة □ غير ذلك/حدد.....
9. هل يوجد في مؤسستك دورات مستمرة خاصة بالعناية القلبية؟ □ نعم □ لا
10. هل شاركت في دورات خاصة بالعناية القلبية؟ □ نعم □ لا
11. اخر دورة شاركت بها: □ اقل من سنة □ من 1-3 سنوات □ من 4-5 سنوات
□أكثر من 5 سنوات
12. عدد سنوات الخبرة في مهنة التمريض: ___ سنة
13. عدد سنوات الخبرة في اقسام العناية بالقلب: _____ سنة
14. عدد سنوات الخبرة في القسم الذي تعمل به حالياً: _____ سنة

معلومات خاصة بالقسم اللذي تعمل به:

15. عدد المرضى اللذين حصلت معهم مضاعفات بعد ان قاموا بالقسطرة القلبية وكانوا تحت مسؤوليتك خلال الشهر الماضي ___

16. عدد المرضى اللذين حصلت معهم مضاعفات بعد ان قاموا بالقسطرة القلبية في القسم الذي تعمل به خلال الشهر الماضي ____

17. عدد الاسرّة في القسم اللذي تعمل به_____

18. عدد اجهزة مراقبة القلب في القسم اللذي تعمل به (cardiac monitors) _____

19. عدد اجهزة تخطيط القلب في القسم الذي تعمل به_____

20. هل يتوفّر في القسم الذي تعمل به اوراق اجهزة تخطيط القلب في كل وقت: □ نعم □ لا

الرجاء وضع (√) في (□) الذي يلائمك في الأقسام التالية:

القسم الثاني: قياس مدى المعرفة التمريضية للقسطرة القلبية:

الرقم	المعرفة	أوافق بشدة	اوافق	لا أعلم	أعارض	اعارض بشدة
1.	من المضاعفات الاساسية في مكان عملية القسطرة القلبية هو تكون خثرة دموية					
2.	يجب فحص مستوى الكرياتنين بالدم مباشرة بعد عملية القسطرة القلبية					
3.	من المضاعفات المصاحبة لازالة ضمادة الجرح هو تكون انسداد هوائي (air embolism)					
4.	تأثير الصبغة الاشعاعية على الكلى يظهر بعد اسبوع من العملية					
5.	وجود انتفاخ مكان العملية من اهم العلامات لتكون خثرة مكان عملية القسطرة القلبية					
6.	يجب ابقاء الطرف الذي اجريت منه العملية مثبت لمدة لا تقل عن 12 ساعة					
7.	بعد اجراء القسطرة القلبية يجب ابقاء المريض مستلقياً على السرير بزاوية 45 درجة					
8.	عند وجود نزف دموي تحت الجلد يجب رفع الطرف الذي اجريت به القسطرة القلبية					
9.	يجب عدم اعطاء السوائل الوريدية بعد اجراء القسطرة القلبية مباشرة					

10.	يمنع المريض من اخذ مميعات الدم في يوم العملية فقط					
11.	عند اختفاء النبض في الطرف الذي اجريت به العملية فهذا يدل على تكون خثره دموية					
12.	بعد اجراء القسطرة إذا عانى المريض من الم في الصدر وتغيرات على تخطيط القلب فهذا يدل على حدوث جلطة قلبية من مضاعافات القسطرة					
13.	ارتفاع عدد انقباضات البطين في القلب على التخطيط الكهربائي للقلب هو من المضاعفات التي قد تحدث بعد القسطرة القلبية					
14.	يمكن ان يحدث فتق في الشريان الذي تم وضع شبكية او بالون به حتى لو كان مناسب لوضع المريض					
15.	حدوث جلطة دماغية هو من مضاعفات القسطرة القلبية					
16.	الخثرة الدموية هي من اهم المضاعفات التي تحدث للمريض بعد عملية القسطرة التي تم اجراءها من اليد					
17.	المضاعفات التي تحصل بعد القسطرة من اليد اكثر من مضاعفات القسطرة من الفخذ					
18.	المرضى الذي تم وضع شبكيات لهم يجب ان يتبعوا حمية غذائية خاصة					
19.	يجب ابعاد مرضى القلب عن الدهون غير المشبعة					
20.	الكوليستيرول الجيد هو HDL					
21.	المرضى الذين يعانون من السمنة هم اكثر من غيرهم عرضة لحدوث مضاعفات بعد عملية القسطرة القلبية					
22.	ينصح المريض بالقيام بنشاطات رياضية خفيفة لاعادة نشاط القلب بعد عملية القسطرة القلبية					

القسم الثالث: تقييم مواقف التمريض تجاه سلامة المرضى مقسمة ل 3 عوامل كما هو موضح:

الرقم	المواقف	دائما	غالبا	احيانا	نادرا	مطلقا
العامل الاول: مناخ الفريق						
1.	من الصعب التحدث في اقسام العناية بمرضى القسطرة القلبية في حال لاحظت مشكلة في رعاية المرضى					
2.	التمريض ذوي الخبرة الأطول يتركون مجال للشرح عن العملية وكيفية العناية بالمرضى					
3.	يتلقى الموظفون الجدد تعليم صحيح حول رعاية المرضى خاصة بعد القسطرة القلبية					
4.	من السهل طرح اسئلة في حال كان هناك شيء لا تفهمه					
5.	يتم اطلاع موظفي العناية بمرضى القسطرة القلبية عن كيفية اجراء عملية القسطرة					
العامل الثاني: سلامة مناخ العمل						
6.	سلامة المريض لا تنخفض عندما يكون هناك تشويش في بيئة العمل					
7.	طبيعة العمل في القسم تساعد على التعلم من اخطاء الاخرين					
8.	اتخذ قرارات جيدة اثناء حدوث حالة طارئة طبية بالقسم					
9.	اتلقى رد فعل مناسب عن ادائي					
0.	يجب ان لا يشكك الممرض الجديد في قرارات الممرض القديم					
1.	من الصعب مناقشة الاخطاء اللتي تحصل في قسم العناية القلبية بين الطاقم التمريضي و الطبي					
العامل الثالث: تمييز الاجهاد						
12	التعب يضعف ادائي خلال المراحل الحرجة من عناية المرضى					
13	الإجهاد الناتج عن المشاكل الشخصية يؤثر سلبًا على أدائي					
14	عندما يصبح عبء العمل فوق طاقتي، يضعف أدائي					
15	ضغط العمل بمستوى عالٍ شائع في اقسام العناية بمرضى القسطرة القلبية					

القسم الرابع: قياس مدى الممارسة التمريضية لمرضى القسطرة القلبية:

الرقم	الممارسة	دائما	غالبا	احيانا	نادرا	مطلقا
37	اشرح للمريض الرعاية التي سأقوم بها بعد العملية					
38	أراقب مكان القسطرة اذا حدث نزيف او تجمع دم تحت الجلد					
39	أراقب لون الجلد ودرجة الحرارة					
40	أراقب العلامات الحيوية للمريض كل 15-30 دقيقة لمدة ساعتين بعد اجراء العملية مباشرة					
41	أقوم بتقييم مدى استقرار الالم لدى المريض					
42	أراقب المريض بعمل تخطيط القلب					
43	أضع المريض على وضع الاستلقاء على الظهر بعد العملية					
44	أقوم بتشجع المريض لزيادة شرب السوائل					
45	أراقب مقدار ما يشرب المريض من سوائل و مقدار ما يخرجه المريض في عملية التبول					
46	أقوم بتشجيع المريض على السعال ومراقبة ان كان هناك عدم راحة بالسعال					
47	أفحص نبضات القلب من المنطقة السفلية من الطرف الذي اجريت منه العملية					
48	أعطي ارشادات مناسبة للمريض بعد العملية حول الحمية الغذائية التي يجب عليه اتباعها					
49	أعطي المريض ارشادات مناسبة بعد العملية حول التمارين الرياضية المناسبة التي يجب عليه القيام بها للحفاظ على نشاط القلب					

القسم الخامس: العبارات بالجدول التالي تهدف الى معرفة معايير المؤسسة اللازمة بالعناية القلبية

الرقم	معايير المؤسسة	دائما	غالبا	احيانا	نادرا	مطلقا
50	مدير ومراقبو المستشفى يراقبون مدى معرفة الممرضين الطبية بالعناية القلبية					
51	يشارك الممرضين في دورات/وورش عمل حول القسطرة القلبية والمضاعفات الممكن حصولها					
52	تقوم لجنة بالمستشفى بمتابعة ومراقبة عمل الممرضين حول التعامل مع المرضى قبل وبعد العملية					
53	تقوم دائرة التعليم المستمر بعمل دورات مستمرة للعناية القلبية في المستشفى الذي أعمل به					
54	هذا المستشفى معد جيداً من ناحية المعرفة والتدريب والتجهيزات اللازمة لحماية المرضى بعد القسطرة القلبية					
55	هناك استمارة خاصة بالمرضى قبل وبعد خضوعهم لعمليات القسطرة القلبية					
56	معدات الحماية الشخصية اللازمة للتعامل مع المرضى متوفرة في المستشفى في جميع الأوقات					
57	يقوم رئيس القسم بمتابعة حالة جميع المرضي اللذين يخضوعون لعمليات القسطرة القلبية					
58	يقوم الممرض اللذي يعتني بمريض لديه مضاعفات من القسطرة القلبية بكتابة تقرير حادثة وتسليمه للإدارة					
59	هناك مراقبة دورية لملفات المرضى اللذين يخضعون للقسطرة القلبية من قبل لجنة الجودة					
60	يتم مراجعة رئيس القسم من قبل الادارة حول كل تقرير حادثة يتم تقديمه للمضاعفات بعد القسطرة القلبية بالقسم					
61	يتم قياس ALDERT Score قبل وبعد دخول المريض الى غرفة العملية					
62	سياسات ومعايير وأنظمة العناية القلبية كافية لحماية المرضى بعد خضوعه لعملية القسطرة القلبية					

أي ملاحظات أخرى تود اضافتها:

_____

_____

الملخص

مقدمة: على الرغم من أن القسطرة القلبية آمنة للمرضى ويمكن أن تنقذهم من حالات تهدد حياتهم، إلا أنها لا تزال تمتلك بعض المخاطر اللتي من الممكن ان تسببها المضاعفات المحتملة، وتنقسم هذه المضاعفات إلى جزئين رئيسيين، مضاعفات بسيطة ومضاعفات كبيرة، قد تسبب الوفاة. هدفت هذه الدراسة إلى التحقيق في معرفة واتجاهات وممارسات طاقم التمريض بشأن سلامة المرضى بعد القسطرة القلبية في المستشفيات الحكومية وغير الحكومية الفلسطينية في الضفة الغربية.

المنهج: المنهج الكمي المقطعي، دراسة وصفية أجريت عام 2021، جُمعت البيانات عن طريق زيارة المستشفيات وتوزيع الاستبيان. بلغ حجم العينة 220 ممرض، وتم ملء 212 استبيان. تم استخدام الإصدار 24 من SPSS لتحليل البيانات وتم استخدام الإحصاء الوصفي وارتباط بيرسون واختبار t في تحليل البيانات الناتجة.

النتائج: أظهرت الدراسة أن المستوى العام لمعرفة واتجاهات وممارسات التمريض فيما يتعلق بالرعاية الصحية للمرضى بعد القسطرة القلبية جيد، الوسط الحسابي كان 3.75 و0.39 = SD، ومعظم الممرضين لديهم معرفة واتجاهات متوسطة حول سلامة المرضى بعد القسطرة القلبية وكان الوسط الحسابي 3.52 ± 0.48 SDو 3.65 ±0.47 SD ، في حين أن لديهم مستوى عالٍ من الممارسة 4.23 ± 0.59. بالإضافة إلى ذلك، كان تصور الممرضين لتطبيق التدابير المؤسسية من قبل مستشفياتهم متوسط .(M: 3.66 ± SD: 0.74) تعتبر النتيجة الإجمالية لـ KAP ذات دلالة إحصائية مع المتغيرات الاجتماعية والديموغرافية: العمر، والحالة الاجتماعية، والقسم الذي يعمل فيه الممرضون، وهناك اتجاه في مستوى التأهيل، بالإضافة إلى وجود علاقة بين متغير المقاييس المؤسسية ومتغيرات.KAP

الخلاصة: الممرضون لديهم المعرفة الكافية تجاه سلامة المرضى بعد القسطرة القلبية والتي يمكن زيادتها عن طريق زيادة مستوى مؤهلات الممرضين مع السلوك الإيجابي ومستوى الممارسة العالي تجاه سلامة المرضى بعد القسطرة القلبية، والممارسة تتأثر بمعرفة الطاقم التمريضي، والممارسات المهنية لها علاقة إيجابية مع التدابير المؤسسية لتعزيز رعاية المرضى.