



بسم الله الرحمن الرحيم

Shendi University



Faculty of Graduate Studies and Scientific Research

Research about:

**Assessment of Nurse's Knowledge about
Nursing Management for Patients Undergoing
Cholecystectomy in Elmak Nimer University
Hospital**

A thesis submitted as partial fulfillment requirement of M.s.c in
medical surgical nursing sciences.

Submitted by:

Safa Massad Gamar-eldeen

BSc Shendi University 2011

Supervised by :

Dr. Elssayed Osman Elssayed
MD, General surgery faculty of medicine,

Shendi University

December 2016

الآية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى :-

﴿وَاخْفِضْ لَهُمَا جَنَاحَ الذُّلِّ مِنَ الرَّحْمَةِ
وَقُلْ رَبِّ ارْحَمْهُمَا كَمَا رَبَّيَانِي صَغِيرًا﴾

صدق الله العظيم

سورة الإسراء - الآية (24)



Dedication

*I have dedicated this research to my dear parents
Who gave me all efforts and facilities to my study from
childhood until adulthood.*

Father & Mother

*To the soul of my heart really you are terrific and
gentleman and thank you for supporting through out the
process of completing this degree*

My brothers & sisters

*Who are teaching me giving without take and patience
without tedium.*

To all my teachers

*Also I would like to dedicate it to my remaining
brothers and sisters for their continuous assistance and
help.*

To all my friends

Those who precede me and no longer with me,

Those who precede me and are still among me,

Those with me,

And to those who will follow me.

Acknowledgement

*First of all thanks to Allah who helped me to
perform this thesis and ability to gain
Knowledge I am deeply indebted to*

Dr. Al said Osman Al said

*For his supervision, valuable suggestions, his precious
advice and constant help.*

*Finally, but not last, my deep gratitude and appreciation
are extended to my beloved family,
Friends and for anyone who help me.
To the sistent participate in the study*

ملخص البحث

أجريت هذه الدراسة الوصفية المقطعية بمستشفى المك نمر الجامعي لتقييم معرفة الممرض عن تقديم العناية التمريضية للمرضي قبل وبعد عملية استئصال الصفراوية. حيث تم تقييم (120) من كل الممرضين باستخدام استبيان، وأوضحت هذه الدراسة أن الأغلبية لديهم معرفة عن العناية التي تقدم قبل العملية، وأيضاً أوضحت هذه الدراسة أن معظم الممرضين لديهم معرفة جيدة عن العناية التمريضية التي تقدم بعد العملية منها تقييم مستوى وعي المريض (82%) وتقييم التنفس (72%)، أقل من نصف الممرضين (40%) لديهم خبرة قليلة عن الرعاية التمريضية بعد العملية خاصة مراقبة العلامات الحيوية كل (15) دقيقة ومراقبة أنبوب التصريف (83%) ومعالجة الألم، جميع الممرضين (100%) لديهم معرفة كافية عن كيفية الوقاية من المضاعفات.

وأوصت هذه الدراسة بإقامة برنامج تعليمي للممرضين لمناقشة الرعاية التمريضية الصحيحة قبل وبعد العملية بأسلوب متقدم وتدريب الممرضين بخصوص مراقبة أنبوب التصريف ومعالجة الألم.

Abstract

This study is descriptive cross sectional conducted in Elmek Nimer University hospital, aimed to assess nurses knowledge about pre and post nursing management for patients undergoing cholecystectomy, (120) nurses were assessed by using questionnaire simple random sampling used for period of one week, it was concluded that majority of nurses of study group good knowledge about pre operative nursing care, majority of them had good knowledge about post operative care as regarding to assessing level of consciousness (82%) and assessing breathing (72%), less than half (40%) of them had poor knowledge about checking vital signs within every 15 minute, assessing drainage system (83%) and managing pain, and all of study group (100%) of them have good knowledge about prevention of complications (pulmonary atelectasis, thrompophleptis). It was recommended that education programs for nurses should be established to discus proper pre and post operative care in advanced and comprehensive manner and to train nurses about assessing drainage system and managing post operative pain.

List of contents

<i>No. of content</i>	<i>Contents</i>	<i>No. of page</i>
1	الآية	I
2	Dedication	II
3	Acknowledgement	III
4	English abstract	IV
5	Arabic abstract	V
6	List of contents	VI
7	List of tables	VII
8	List of figures	VIII
<i>Chapter One</i>		
10	Introduction	1 – 2
11	Rational	3
12	Objectives	4
<i>Chapter Two</i>		
13	Literature review	5 – 19
<i>Chapter Three</i>		
14	Methodology	20 – 21
<i>Chapter Four</i>		
15	Results	22 – 37
<i>Chapter Five</i>		
16	Discussion	38 – 40
17	Conclusion	41
18	Recommendations	42
<i>Chapter Six</i>		
19	References	43
20	Appendix	44 – 46

List of tables

<i>No. of table</i>	<i>Tables</i>	<i>No. of page</i>
{1}	Distribution of study population according to their gender	22
{2}	Distribution of study population according to their knowledge about indication of cholecystectomy	25
{3}	Distribution of study population according to their informed consent	25
{4}	Distribution of study population according to their laboratory test should be checked	26
{5}	Distribution of study population according to their fasting about	27
{6}	Distribution of study population according to their physical preparation (skin preparation)	28
{7}	Distribution of study population according to their bladder emptying	28
{8}	Distribution of study population according to their patients and Family counseling	29
{9}	Distribution of study population according to their full assessment of drainage system	32
{10}	Distribution of study population according to their Mobilization of the patient	33
{11}	Distribution of study population according to their teaching the patient about home self care on discharge	34
{12}	Distribution of study population according to their prevention of complications (pulmonary atelectasis) the nurse do	34
{13}	Distribution of study population according to their prevention of complications (thrombophleptis)	34
{14}	Cross tabulation between years of experience and knowledge about cholecystectomy meaning	35
{15}	Cross tabulation between years of experience and checked of vital sign immediately	36
{16}	Cross tabulation between teaching the patient about home self care and how prevent complication thrombophleptis	37

List of figures

<i>No. of figure</i>	<i>Tables</i>	<i>No. of page</i>
{1}	Distribution of study population according to their age	22
{2}	Distribution of study population according to their qualification	23
{3}	Distribution of study population according to their department	23
{4}	Distribution of study population according to their year of experience	24
{5}	Distribution of study population according to their cholecystectomy mean	24
{6}	Distribution of study population according to their check vital signs	26
{7}	Distribution of study population according to their preoperative teaching (breathing exercise, coughing exercise, turning and lifting)	27
{8}	Distribution of study population according to their transporting the patient to pre surgical area	29
{9}	Distribution of study population according to their assess level of consciousness	30
{10}	Distribution of study population according to their assess breathing	30
{11}	Distribution of study population according to their check vital signs immediate	31
{12}	Distribution of study population according to their assess operation site	31
{13}	Distribution of study population according to their managing pain and medication	32
{14}	Distribution of study population according to their urine output chart	33

Chapter One

Introduction

Rational

Objectives

Introduction

Cholecystectomy is removal of gallbladder through an abdominal incision (usually right subcostal) after the cystic duct and artery are ligated ⁽¹⁾.

The procedure is performed for acute and chronic cholecystitis. In some patients a drain is placed close to the gallbladder bed and brought out through a puncture wound if there.

Cholecystectomy is the most commonly performed by inserting special surgical tools through small four incisions to see inside abdominal and remove the gallbladder (laparoscopic cholecystectomy). In some cases one large incision may be used to remove the gallbladder (open cholecystectomy).

Cholecystectomy is indicated in presence of gallbladder trauma gallbladder cancer acute cholecystitis and other complication of gallstone.

Laparoscopic cholecystectomy was performed on 80% patient for benign gallstone disease. More than half million operation is before annually.

The two procedure need general anesthesia but for about the length of time as the open procedure. Laparoscopic procedure generally less postoperative pain and shorter recovery period.

Any surgical procedure require informed consent, fluid administration and fasting at night, empty bladder by insertion catheter to prevent accidental puncture of bladder with insertion tracer and bowel preparation.

Post operative care of patient who had cholecystectomy as with major surgery involve monitoring of vital signs especially respiratory rate because affect of general anesthesia and teach patient about deep breathing to relieve pain can caused by incision, support operative site when moving or coughing, give necessary medication as need, fluid are giving intravenously for 24-48 hour after surgery and discharge from hospital with in three to five day, with return for follow up approximately four to six week after procedure ⁽²⁾.

Surgical complication include wound infection, adverse reaction of anesthesia, injury of liver .pancreatitis occur about 5%at time in laparoscopic procedure open cholecystectomy have more complication; bleeding , Injury to the bile duct, deep vein thrombosis, Injury to the intestine, bowel and blood vessels, Bile leakage ⁽³⁾.

1.2 Rational

Preoperative and postoperative care is important to reduce hospital stays and contain costs and enhance the healing without complication. Has resulted in patients undergoing cholecystectomy preadmission testing and preoperative preparation before admission to the hospital many facilities have a pre surgical services department to facilitate testing and to initiate the nursing assessment process, which may focus on patient demographics, health history, and other information pertinent to the surgical procedure according to literature.

1.3 Objectives

1.3.1. General objectives:

Assessment of nurse's knowledge about nursing management for patients undergoing cholecystectomy.

1.3.2. Specific objectives:

1. To assess nurses knowledge about the pre operative care plan of patients with cholecystectomy.
2. To assess nurses knowledge about the post operative care plan of patients with cholecystectomy.
3. To identify nurses knowledge the measures to prevent complications of cholecystectomy.

2. Literature review

2.1. Definition of Cholecystectomy:

Is the removal of gallbladder through an abdominal incision (usually right sub costal) after the cystic duct and artery are ligated. The procedure is performed for acute and chronic cholecystitis. In some patients a drain is placed close to the gallbladder bed and brought out through a puncture wound if there is bile.

Usually only a small amount of serosanguinous fluid will drain in the initial 24 hours after surgery, and then the drain will be removed. The drain is usually maintained if there is excess oozing or bile leakage. Use of a T-tube inserted into the common bile duct during the open procedure is now uncommon; it is used only in the setting of a complication (ie, retained common bile duct stone). Bile duct injury is a serious complication of this procedure but occurs less frequently than with the laparoscopic approach. Once one of the most common surgical procedures in the United States, this procedure has largely been replaced by laparoscopic cholecystectomy ⁽¹⁾.

2.2. Preoperative Nursing Interventions:

2.2.1. Preoperative Consent:

Before performing surgery, it is the physician's responsibility to obtain voluntary, written, informed consent from the patient. The consent gives legal permission for the surgery and has two purposes. It protects the patient from unauthorized procedures, and it protects the physician, anesthesiologist, hospital, and hospital employees from claims of performing unauthorized procedures. A signed consent is needed for all invasive procedures, anesthesia, blood administration ⁽⁴⁾.

This study showed the informed consent is a process which the patient and health care practitioner dialogue treatment nature, consequences, harm benefit, risk and alternative.

Study show that improved communication between practitioner and patient lead to improve patient outcome, less error, and lower rate of malpractice climes. This process linked to patient satisfaction. in general providing patient simplified supplemental written material using educational tool ⁽⁵⁾.

2.2. Preoperative teaching:

Nurses have long recognized the value of preoperative instruction. Each patient is taught as an individual, with consideration for any unique concerns or needs; the program of instruction should be based on the individual's learning needs. Multiple teaching strategies should be used (e.g., verbal, written, return demonstration), depending on the patient's needs and abilities. Preoperative teaching is initiated as soon as possible. It should start in the physician's office and continue until the patient arrives in the operating room.

Preoperative teaching for patients undergoing surgery includes instruction in breathing and leg exercises used to prevent postoperative complications, such as pneumonia and deep vein thrombosis. These exercises may be performed in the hospital or at home

2.2.3 Diaphragmatic Breathing:

Diaphragmatic breathing refers to a fattening of the dome of the diaphragm during inspiration, with resultant enlargement of the upper abdomen as air rues in. During expiration, the abdominal muscles contract.

1. Practice in the same position you would assume in bed after surgery: a semi-Fowler's position, propped in bed with the back and shoulders well supported with pillows.
2. With your hands in a loose-fist position, allow the hands to rest lightly on the front of the lower ribs, with your fingertips against lower chest to the feel movement .
3. Breathe out gently and fully as the ribs sink down and inward toward midline.
4. Then take a deep breath through your nose and mouth, letting the abdomen rise as the lungs fill with air.
5. Hold this breath for a count of five.

6. Exhale and let out all the air through your nose and mouth.
7. Repeat this exercise 15 times with a short rest after each group of five.
8. Practice this twice a day preoperatively.

2.2.4. Coughing:

1. Lean forward slightly from a sitting position in bed, interlace your fingers together, and place your hands across the incisional site to act as a plantlike support when coughing.
2. Breathe with the diaphragm as described under “Diaphragmatic Breathing.”
3. With your mouth slightly open, breathe in fully.
4. “Hack” out sharply for three short breaths.
5. Then, keeping your mouth open, take in a quick deep breath and immediately give a strong cough once or twice. This helps clear secretions from your chest. It may cause some discomfort but will not harm your incision

2.2.5. Leg Exercises:

1. Lie in a semi-Fowler’s position and perform the following simple exercises to improve circulation.
2. Bend your knee and raise your foot—hold it a few seconds, then extend the leg and lower it to the bed.
3. Do this five times with one leg, then repeat with the other leg.
4. Then trace circles with the feet by bending them down, in toward each other, up, and then out.
5. Repeat these movements' five times.

2.2.6. Turning to the Side:

1. Turn on your side with the uppermost leg flexed most and supported on a pillow.
2. Grasp the side rail as an aid to maneuver to the side.
3. Practice diaphragmatic breathing and coughing while on your side.

2.2.7. Getting Out of Bed:

1. Turn on your side.
2. Push yourself up with one hand as you swing your legs out of bed ⁽⁴⁾.

2.2.8. Preoperative patient's preparation:

Obtain record vital signs.

2.2.9 Preoperative psychological intervention;

1. Reducing Preoperative Anxiety:

Cognitive strategies useful for reducing anxiety. In addition to these strategies, music therapy is an easy-to-administer, inexpensive, noninvasive intervention that can reduce anxiety in the preoperative patient.

The patient should be allowed to choose his or her own music and be provided with quiet uninterrupted listening time.

The general preoperative teaching addressed earlier in this section will also help decrease anxiety in many patients.

Knowing ahead of time about the possible need for a ventilator, drainage tubes, or other types of equipment will help decrease anxiety in the postoperative period.

This study show the increased of knowledge of patient regarding surgery may reduce their state anxiety level ⁽⁶⁾.

2. Decreasing Fear:

During the preoperative assessment the nurse should assist the patient to identify coping strategies that he or she has previously used to decrease fear.

The patient benefits from knowing when family and friends will be able to visit after surgery and that a spiritual advisor will be available if desired. Research suggests that hypnosis may be a useful strategy for reducing fear and overcoming the anxiety associated with surgery.

2.2.10. Managing Nutrition and Fluids:

The major purpose of withholding food and fluid before surgery is to prevent aspiration. However, studies demonstrate that in patient who do not have a compromised airway or coexisting disease or disorders that affect gastric emptying or fluid volume, lengthy restriction of fluid and food is unnecessary. Until recently, fluid and food were restricted preoperatively overnight and often longer. However, recent review of this practice by the American Society of

Anesthesiologists has resulted in new recommendations for persons undergoing elective surgery who are otherwise healthy. The recommendations depend on the age of the patient and type of food eaten.

For example, adults are advised to fast for 8 hours after eating fatty food and 4 hours after ingesting milk products.

2.2.11. Preparing the Bowel for Surgery:

Enemas are not commonly ordered preoperatively unless the patient is undergoing abdominal or pelvic surgery. In this case, a cleansing enema or laxative may be prescribed the evening before surgery and may be repeated the morning of surgery.

The goals of this preparation are to allow satisfactory visualization of the surgical site and to prevent trauma to the intestine or contamination of the peritoneum by feces.

2.2.12. Preparing the Skin:

The goal of preoperative skin preparation is to decrease bacteria without injuring the skin. If the surgery is not performed as an emergency, the patient may be instructed to use a soap containing a detergent-germicide to cleanse the skin area for several days before surgery to reduce the number of skin organisms; this preparation may be carried out at home ⁽¹⁾.

Remove the nail polish, lipstick and makeup to facilitate circulatory assessment during and after surgery. Shave the hair from operation site or around it.

Remove hair pins and jewelry; a wedding ring may be worn if it is removed from the finger, covered with gauze, replaced and then taped to the finger ⁽⁴⁾.

This study show that preparation s important factor to prevent surgical site from infection that lead to prolonged hospitalization and increased morbidity and mortality rate and cost of treatment ,can use compilation of chlorhexidine and isopropyl alcohol has demonstrate better residual antimicrobial activity ⁽⁷⁾.

2.2.13. Bladder preparation:

All patients (except those with urologic disorders) should void immediately before going to the operating room to promote continence during low abdominal surgery and to make abdominal organs more accessible. Urinary catheterization is performed in the operating room as necessary

2.2.14. Diagnostic Test:

- Complete blood count.
- Serum bilirubin is measured.
- Serum amylase and lipase are measured.
- Abdominal x- ray.
- Ultra sound of gallbladder.
- Gallbladders scan ⁽⁸⁾.

2.2.15. Transporting the Patient to the Pre surgical Area:

The patient is transferred to the holding area or pre surgical suite in a bed or on a stretcher about 30 to 60 minutes before the anesthetic is to be given. The stretcher should be as comfortable as possible, with a sufficient number of blankets to prevent chilling in air-conditioned rooms. A small head pillow is usually provided.

The patient is taken to the preoperative holding area, greeted by name, and positioned comfortably on the stretcher or bed.

The surrounding area should be kept quiet if the preoperative medication is to have maximal effect. Unpleasant sounds or conversation should be avoided because a related patient who over- hears them might misinterpret them. Patient safety in the preoperative area is a priority. Using a process to verify patient identification, the surgical procedure, and the surgical site maximizes patient safety and allows for early identification and intervention if any discrepancies are identified.

2.3. Immediate post operative care:

2.3.1. Nursing Management in the Post anasthia care unit:

The nursing management objectives for the patient in the Post anasthia care unit are to provide care until the patient has recovered from the effects of anesthesia (e.g., until resumption of motor and sensory functions), is oriented, has stable vital signs, and shows no evidence of hemorrhage or other complications.

Assessing the Patient Frequent, skilled assessments of the blood oxygen saturation level, pulse rate and regularity, depth and nature of respirations, skin color, level of consciousness, and ability to respond to commands are the cornerstones of nursing care in the Post anasthia care unit.

The nurse performs a baseline assessment, then checks the surgical site for drainage or hemorrhage and makes sure that all drainage tubes and monitoring lines are connected and functioning. After the initial assessment, vital signs are monitored and the patient's general physical status is assessed at least every 15 minutes. Patency of the airway and respiratory function are always evaluated first, followed by assessment of cardiovascular function, the condition of the surgical site, and function of the central nervous system. The nurse needs to be aware of any pertinent information from the patient's history that may be significant (e.g., patient is hard of hearing, has a history of seizures, has diabetes, or is allergic to certain medications or to latex) ⁽⁴⁾.

2.3.2 Postoperative Nursing Intervention:

As soon as the patient has recovered from anesthesia he is placed in Fowler's position. Fluid may be given intravenously and nasogstric suction may be instituted to relieve distention. Water and other fluid may be given in about 24 hours and soft diet started later after bowel sound return.

1. Relieve of pain: the location the sub costal incision is likely to cause the patient to a void turning and moving and to splint the operative site by taking shallow breaths to prevent pain. Since full aeration of the lung and gradually increased activities are necessary to prevent postoperative complications.

Analgesics should be given as prescribed and the patient assisted to turn, cough, breathe deeply and ambulate as indicated. Use of pillow or binder over the incision may reduce the amount of pain during these maneuvers.

2. Improvement of respiratory status. These patients are especially prone to pulmonary complications as are all patients with upper abdominal incision. Thus they should be taught to take deep breaths every hour to aerate the lungs fully. Other complications such as thrombophlebitis and pulmonary atelectasis may be avoided by promoting early ambulation as soon as permissible. Such complications are more likely to occur in the more obese patient.

3. Drainage system and skin care. As was mentioned before in patients who have undergone a cholecystectomy the drainage tubes must be connected immediately to a drainage receptacle. In addition tubing should be fastened to the dressing or to bottom sheet, with enough leeway for the patient to move without dislodging it.

The patient must know why he cannot roll onto the tube and that it must remain patent at all times. Since a drainage receptacle remains attached when the patient is ambulating, the collecting bag may be placed in a bathrobe pocket or fastened so that it is below the waist or common duct level. If a Penrose drain is used as it is for cholecystectomy the dressings are changed as required. Montgomery straps are helpful in maintaining a comfortable dressing.

Following these surgical procedures the patient is observed for indications of infection, leakage of bile into the peritoneal cavity, and obstruction of bile drainage. If bile is not draining properly an obstruction is probably causing bile to be forced back into the liver and bloodstream. Since jaundice may result, the nurse should be particularly observant of the color of sclerae. The nurse should also note and report right upper quadrant abdominal pain, nausea and vomiting, bile drainage around the T tube, clay colored stool and change in vital signs.

Bile may continue to drain from drainage tract in considerable quantities for a time.

Necessitating frequent changes of the outer dressings and protection of the skin from irritation. Skin pastes of zinc oxide, aluminum, or petrolatum prevent the bile from literally digesting the skin.

In order to prevent total loss of bile, the drainage tube or collecting receptacle may be elevated above the level of the abdomen, so that the bile drains through the apparatus only if pressure develops in the duct system.

The bile collected should be measured and recorded every 24 hours, and its color and character are also documented. After several days of drainage the tube may be clamped for an hour before and after each meal, with the purpose being to deliver bile to the duodenum to aid in digestion.

Within 7 to 14 days the drainage tubes are removed from the gallbladder or common bile duct. In all patients with biliary drainage the stools should be observed daily and their color recorded. Specimens of both urine and feces may be sent to the laboratory for examination for bile pigments. In this way it is possible to determine that again into the duodenum.

A careful record of fluid intake and output is kept and totaled for each 24 hours.

The goal of preoperative skin preparation is to reduce the incidence of SSI in a safe, user-friendly, and cost-effective manner. Because urologists perform a breadth of different operations accessing numerous surgical sites, a standard antiseptic agent is unlikely to be uniformly optimal. Traditional aqueous-based iodophors such as PVP-I are ideal for transvaginal and transurethral surgery and are one of the few products that can be safely used on mucous membrane surfaces. Likewise, alcohol based solutions such as Dura Prep solution are quick, sustained, and durable with broader spectrum antimicrobial activity. These seem ideal for longer open surgeries with the potential for irrigation or surgical spillage, for percutaneous procedures with indwelling catheters, and for prosthesis implantation when minimizing skin colony counts is critical to prevent hardware infection. Because alcohol is flammable, when using these

products care must be taken to allow adequate drying time and to remove excessive hair from the prepared field that may delay alcohol vaporization ⁽⁴⁾.

4. Improving Nutritional Status:

The nurse encourages the patient to eat a diet low in fats and high in carbohydrates and proteins immediately after surgery.

At the time of hospital discharge, there are usually no special dietary instructions other than to maintain a nutritious diet and avoid excessive fats. Fat restriction usually is lifted in 4 to 6 weeks when the biliary ducts dilate to accommodate the volume of bile once held by the gallbladder and when the ampulla of Vater again function effectively. After this, when the patient eats fat, adequate bile will be released into the digestive tract to emulsify the fats and allow their digestion.

This is in contrast to before surgery, when fats may not be digested completely or adequately, and flatulence may occur. However, one purpose of gallbladder surgery is to allow a normal diet.

5. Promoting Home and Community-Based Care:

Teaching Patients Self-Care the nurse instructs the patient about the medications that are prescribed (vitamins, anticholinergics, and antispasmodics) and their actions. It also is important to inform the patient and family about symptoms that should be reported to the physician, including jaundice, dark urine, pale-colored stools, pruritus, or signs of inflammation and infection, such as pain or fever. Some patients report one to three bowel movements a day. This is the result of a continual trickle of bile through the chledochooduodenal junction after cholecystectomy. Usually, such frequency diminishes over a period of a few weeks to several months.

If a patient is discharged from the hospital with a drainage tube still in place, the patient and family may need instructions about its management. The nurse instructs them in proper care of the drainage tube and the importance of reporting to the physician promptly any changes in the amount or characteristics of drainage.

Assistance in securing the appropriate dressings will reduce the patient's anxiety about going home with the drain or tube still in place.

6. Continuing Care:

With sufficient support at home, most patients recover quickly from cholecystectomy. However, elderly or frail patients and those who live alone may require a referral for home care. During home visits, the nurse assesses the patient's physical status, especially wound healing, and progress toward recovery. Assessing the patient for adequacy of pain relief and pulmonary exercises also is important. If the patient has a drainage system in place, the nurse assesses it for patency and appropriate management by the patient and family. Assessing for signs of infection and teaching the patient about the signs and symptoms of infection are also important nursing intervention.

The patient's understanding of the therapeutic regimen (medications, gradual return to normal activities) is assessed, and previous teaching is reinforced. The nurse emphasizes the importance of keeping follow-up appointments and reminds the patient and family of the importance of participating in health promotion activities and recommended health screening⁽⁹⁾.

This study postoperative care of patients undergoing cholecystectomy showed that best practice are aimed at optimizing the surgical experience while maintaining safety and providing compassionate care the stander of nursing care for patients receiving from cholecystectomy are comprehensive and include monitoring, evaluation and treatment. The nurse must be having knowledge of implication of the procedure, clinical manifestation of complications and risk factor. Identify patients at high risk for adverse outcome allow the nurse identify need of patients. Efficient nursing care is important during recovery to prevent postoperative complications and educate patients alleviate a necessary anxiety related to discharge expectation)⁽³⁾.

2.3.2 Nursing process:

The patient undergoing surgery for gallbladder disease.

1- Assessment:

The nursing history and examination focus on the occurrence of abdominal pain and discomfort as well as those factors that tend to precipitate discomfort. The presence of abdominal pain several hours after eating a meal high in fat is noted.

The history and physical examination also include information about respiratory status since the high abdominal incision required during surgery may interfere with full respiratory Excursion.

Nutritional status is obtained through dietary and general examination.

2- Nursing diagnosis:

- Pain and discomfort related to obstruction of the biliary system and inflammation and distention of gallbladder.
- Potential respiratory impairment related to high abdominal surgical incision.
- Potential alteration in skin integrity related to altered biliary drainage following surgical intervention.
- Alteration in nutrition related to inadequate bile secretion.
- Knowledge deficit about self care activities following discharge ⁽⁴⁾.

2.4 Home teaching:

Once you are home, it's important to keep the incision clean and dry. Your provider will give you specific bathing instructions. If stitches or surgical staples are used, they will be removed during a follow-up office visit. If adhesive strips are used, they should be kept dry and usually will fall off within a few days.

The incision and your abdominal muscles may ache, especially after long periods of standing. If you had a laparoscopic surgery, you may feel pain from any carbon dioxide gas still in your belly. This pain may last for a few days. It should feel a bit better each day.

Take a pain reliever as recommended by your provider. Aspirin or other pain medicines may raise your risk of bleeding. Be sure to take only medicines your healthcare provider has approved.

Walking and limited movement are generally fine. But you should avoid strenuous activity. Your provider will tell you when you can return to work and go back to normal activities.

2.5. Complications of a gallbladder removal:

Removal of the gallbladder (cholecystectomy) is considered a relatively safe procedure, but like all operations there is a small risk of complications.

1\Infection:

Some people develop a wound or internal infection after a gallbladder removal.

Signs of a possible infection include increasing pain, swelling or redness, and pus leaking from a wound. See your GP if you develop these symptoms, as you may need a short course of antibiotics.

2\Bleeding

Bleeding can occur after your operation, although this is rare. If it does occur, it may require a further operation to stop it.

3\Bile leakage

When the gallbladder is removed, special clips are used to seal the tube that connects the gallbladder to the main bile duct. However, bile fluid can occasionally leak out into the tummy (abdomen) after the gallbladder is removed.

Symptoms of a bile leak include tummy pain, feeling sick, a fever and a swollen tummy.

Sometimes this fluid can be drained off. Occasionally, an operation is required to drain the bile and wash out the inside of your tummy.

Bile leakage occurs in around 1% of cases.

4\Injury to the bile duct

In around 1 in 500 cases, the bile duct is damaged during a gallbladder removal.

If this happens during surgery, it may be possible to repair it straight away. In some cases, further surgery is needed after your original operation.

5\ Injury to the intestine, bowel and blood vessels

The surgical instruments used to remove the gallbladder can also injure surrounding structures, such as the intestine, bowel and blood vessels.

This type of injury is rare, occurring in around 1 in 1,000 cases, and can usually be repaired at the time of the operation. Sometimes injuries are noticed afterwards and a further operation is needed.

6\ Deep vein thrombosis.

Some people are at a higher risk of blood clots developing after surgery. This is known as deep vein thrombosis (DVT) and usually occurs in a leg vein.

This can be serious because the clot can travel around the body and could block the flow of blood into the lungs (pulmonary embolism).

You may be given special compression stockings to wear after the operation to prevent this happening.

7\ Risks from general anaesthetic:

There are several serious complications associated with having a general anaesthetic, but these are very rare.

Complications include allergic reaction and death. Being fit and healthy before your operation reduces the risk of any complications occurring.

8\ Post-cholecystectomy syndrome:

Some people experience symptoms similar to those caused by gallstones after surgery, including :

- tummy pain.
- indigestion.
- diarrhoea.
- yellowing of the eyes and skin (jaundice).

- a high temperature (fever) of 38C (100.4F) or above.

This is known as post-cholecystectomy syndrome (PCS) and it's thought to be caused by bile leaking into areas such as the stomach or by gallstones being left in the bile ducts.

In most cases symptoms are mild and short-lived, but they can persist for many months. If you do have persistent symptoms, you should contact your GP for advice ⁽⁶⁾.

Methodology

Study type (design):

Descriptive cross sectional of hospital based study done in Almak Nimer university hospital during period from (August to December 2016).

Study area:

The research was done in Sudan in Shendi town, it is one of the major towns in river Nile state and include several general centers for different services and purpose, also there in Shendi university with various faculties.

Shendi has three hospitals, Shendi teaching hospital, military hospital and Almak Nimer hospital.

Study setting:

Almak Nimer hospital was established in July 2002. It is the biggest hospital which have different departments and provide good health service for population of Shendi area. There is medicine department, surgery, pediatric, obstetrical, ENT, ICU, ophthalmic, dental unit, minor and major theater, CCU, emergency room, oncology, and dialysis unit. There is also blood bank and pharmacy and laboratory.

Study population:

All nurses who work in Almak Nimer university hospital were included the (nurse has less than one year experience and nurse has Experian's from on to three years, and nurse has more than three year).

Sampling:

Sampling techniques:

Total cover sample.

Sample size:

Total sample (120 nurses selected from total number of nurses) working during all shift

Date collection tools:

Structure questionnaire had been used to collect data and it consist of 27 questions from (1 – 5) about personal data, and questions from (6 – 7) about assessment of nurses knowledge about cholecystectomy, (8-24) assess nurses knowledge about pre and postoperative care for patient with cholecystectomy. (25-27) about home teaching and teach the patient to prevent complication.

Data collection technique:

Each questionnaire was filled by direct asking of the nurses, every questionnaire takes 3-5 min.

Data analysis:

The data has been analysis by SPSS (statal package for social science) and presented in tables and charts.

Ethical considerations:

The study was approved by ethical committee of research in the faculty of post graduate and scientific research. Before conducting the study, verbal permission was taken from hospital manger and from staff delivering care for patients. (The purpose of study was explained pre and post operative care plan of patient with cholecystectomy and identify measures to prevent complications of cholecystectomy). They were told that data collected from the questionnaire will remain confidential and it's not allowed for any person to identify it.

4. Results

Personal characteristics distribution among study group:

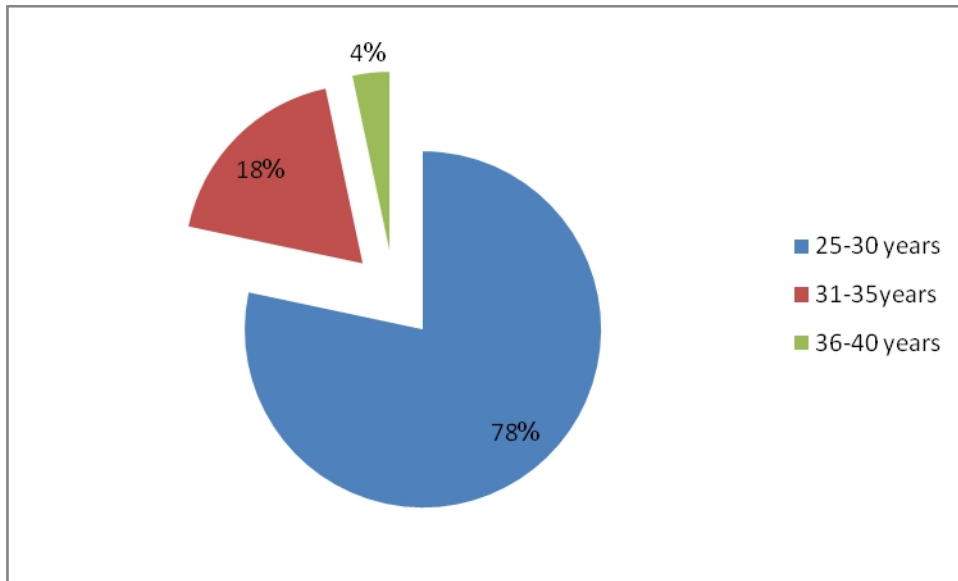


Figure number (1): Distribution of study population according to their age.

The figure above showed that (78%) of study group age between (25-30) years, (18%) between age(31-35) years and (4%) between age (36-40) years.

Table number (1): Distribution of study population according to their gender.

Gender	Frequency	Percentage
Male	7	6%
Female	113	94%
Total	120	100%

The above table showed that (6%) of gender of study group were male and (94%) were female.

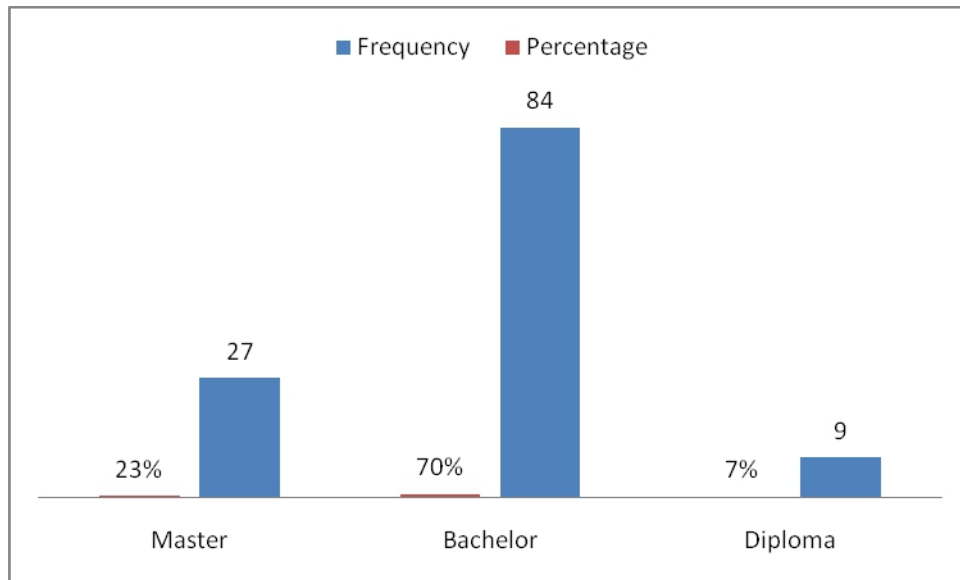


Figure number (2): Distribution of study population according to their qualification:

The above figure showed that (7%) of study group had learning diploma and (70%) bachelor and other had master degree about (23%).

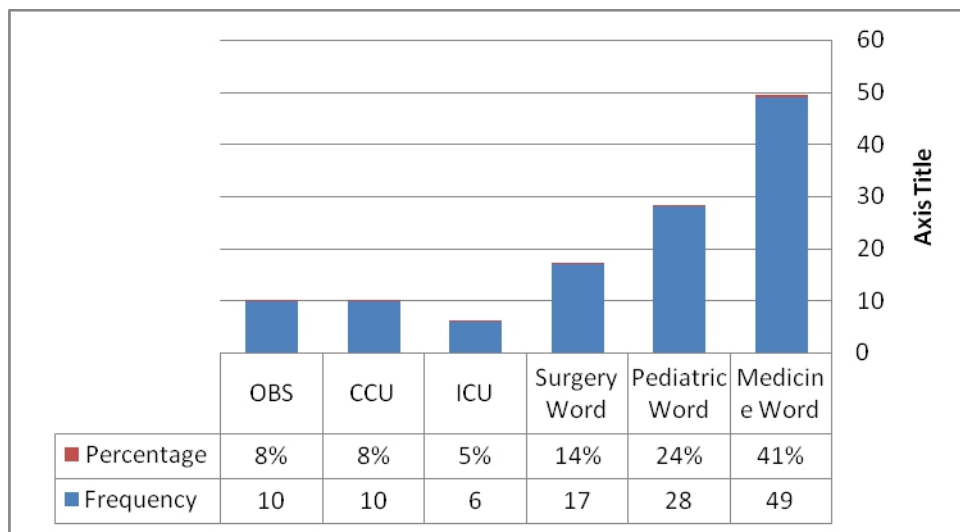


Figure number (3): Distribution of study population according to their department:

The above figure showed department of study group about (41%) of study group work in medicine ward and about (24%) work in pediatric ward and (14%) work in surgery ward and about (5%) work ICU unit and about (8%) work in CCU unit and about (8%) work in obstetric ward.

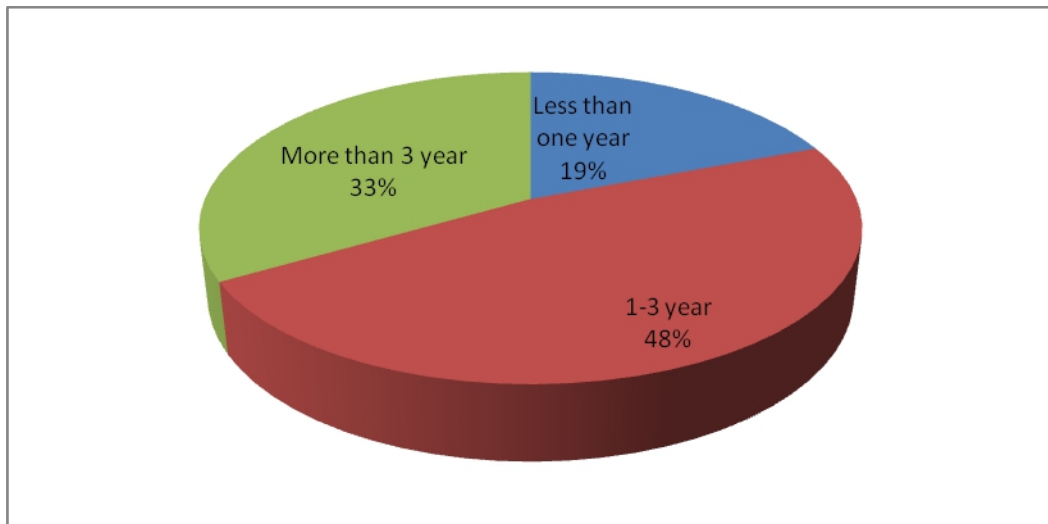


Figure number (4): Distribution of study population according to their year of experience:

The above figure showed (19%) had less than one year of experience, (48%) had (1-3) years and (33%) had more than three year.

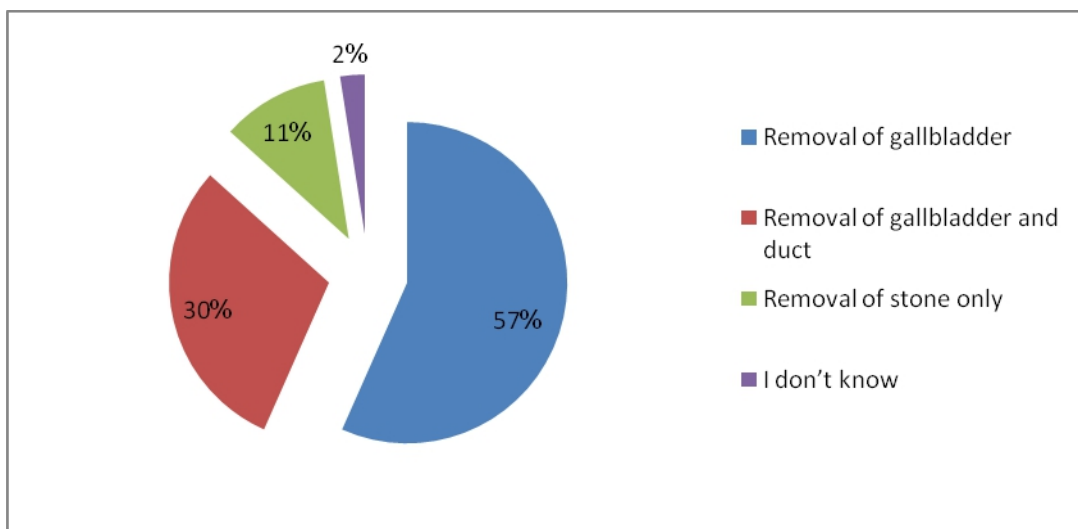


Figure number (5): Distribution of study population according to their cholecystectomy mean:

The above figure showed knowledge about cholecystectomy mean answers that mean removal of gallbladder about (57%) and answer removal of gallbladder and duct about (30%) and answer removal of stone only about (11%) and answer of don't know about (2%).

Table number (2): Distribution of study population according to their knowledge about indication of cholecystectomy:

Indication	Frequency	Percentage
Know	105	88%
I don't know	15	12%
Total	120	100%

The above table showed knowledge of study group about indication of cholecystectomy (88%) are known and (12%) are don't know.

Table number (3): Distribution of study population according to their informed consent:

Informed consent	Frequency	Percentage
Done	116	97%
Not done	4	3%
Total	120	100%

The above table showed that (97%) of study group obtain the consent and (3%) of them not obtained consent.

Table number (4): Distribution of study population according to their laboratory test should be checked:

Lab test	Frequency	Percentage
Yes	113	94%
No	7	6%
Total	120	100%

The above table showed laboratory test about (94%) of study group choice option yes and about (6%) choice option no.

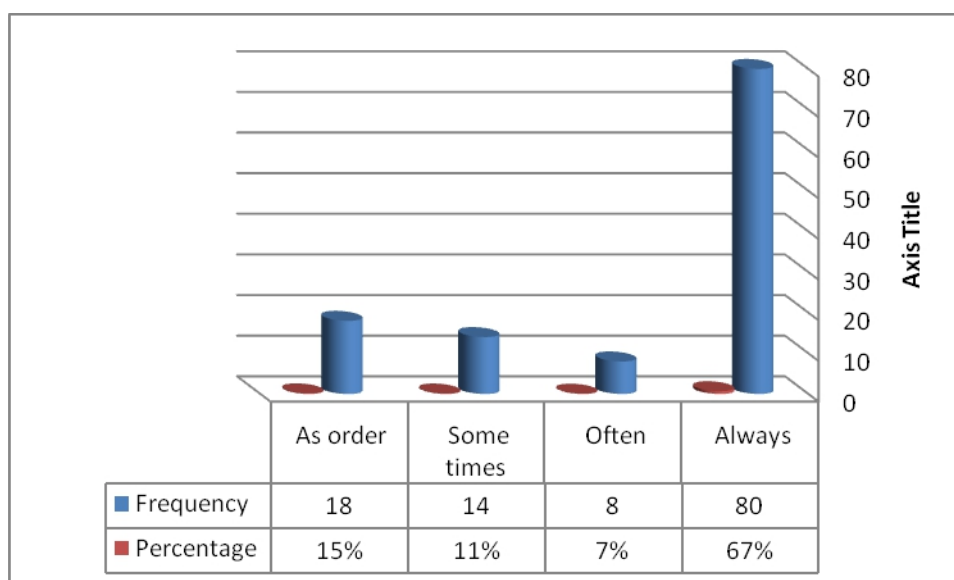


Figure number (6): Distribution of study population according to their check vital signs:

The above figure showed (67%) of them check vital signs always, (7%) often, (11%) sometimes and (15%) as order.

Table number (5): Distribution of study population according to their fasting about:

Fasting	Frequency	Percentage
4-6 hours	113	94%
I don't know	7	6%
Total	120	100%

The above table showed time of fasting answer of (4-6) hours about (94%) and other answer don't know about (6%).

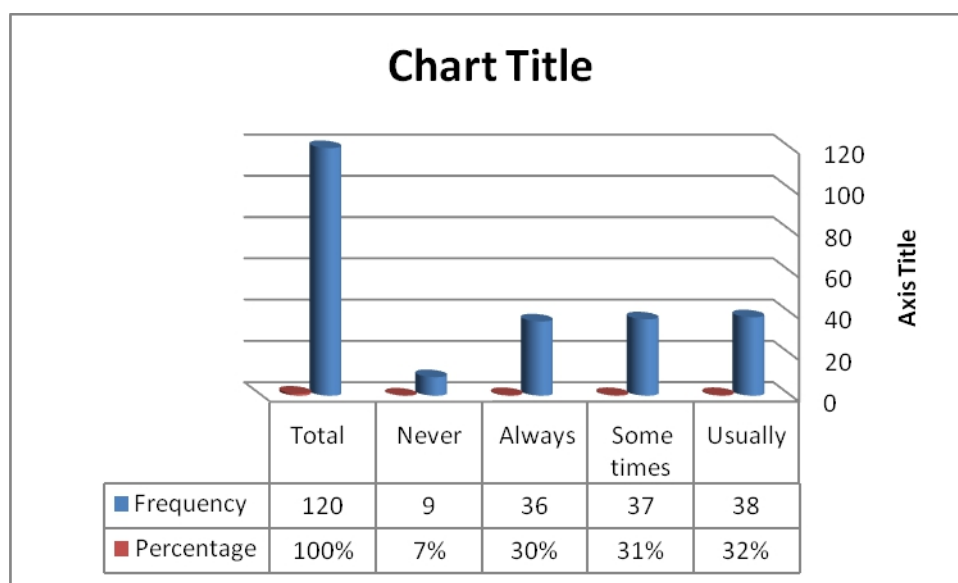


Figure number (7): Distribution of study population according to their preoperative teaching (breathing exercise, coughing exercise, turning and lifting):

The above figure showed, Preoperative teaching (breathing exercise, coughing exercise, turning and lifting) the study group about (32%) answer usually and about (31%) sometime and about (30%) always and (7%) answer Never.

Table number (6): Distribution of study population according to their physical preparation (skin preparation):

Skin preparation	Frequency	Percentage
During operation	81	77%
I don't know	39	32%
Total	120	100%

The above table showed that (77%) of study group and other choice don't know about (32%) of study group.

Table number (7): Distribution of study population according to their bladder emptying:

Bladder empty	Frequency	Percentage
Yes	111	93%
No	9	7%
Total	120	100%

The above table showed that(93%) of study group emptying the bladder and(7%) are choice No.

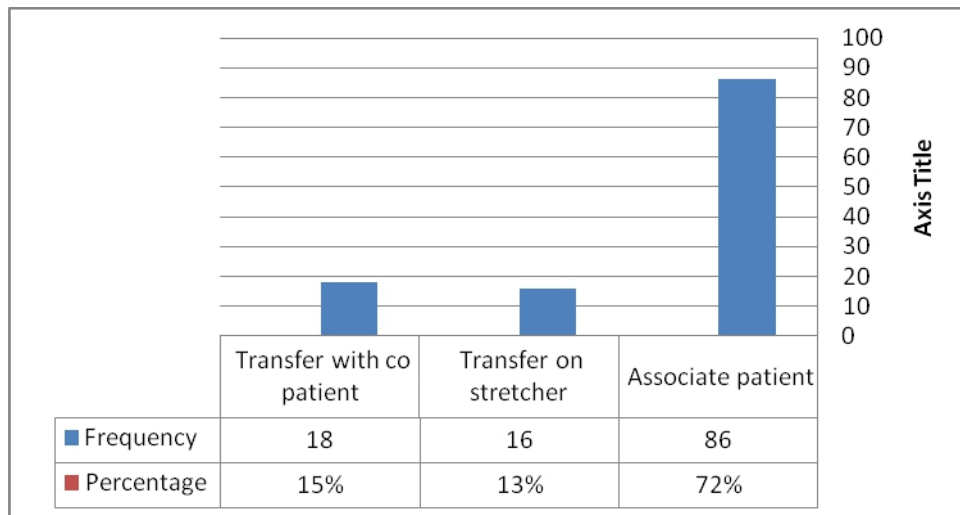


Figure number (8): Distribution of study population according to their transporting the patient to pre surgical area:

The above figure showed that (72%) of study group the transport the patient to per surgical area associate patient,(13%) transfer on stretcher, and (15%) transfer with CO patient.

Table number (8): Distribution of study population according to their patients and Family counseling:

Patient and family counseling	Frequency	Percentage
Yes	114	95%
No	6	5%
Total	120	100%

The above table showed that(95%) of study group are do Patients and Family counseling and(5%) not do.

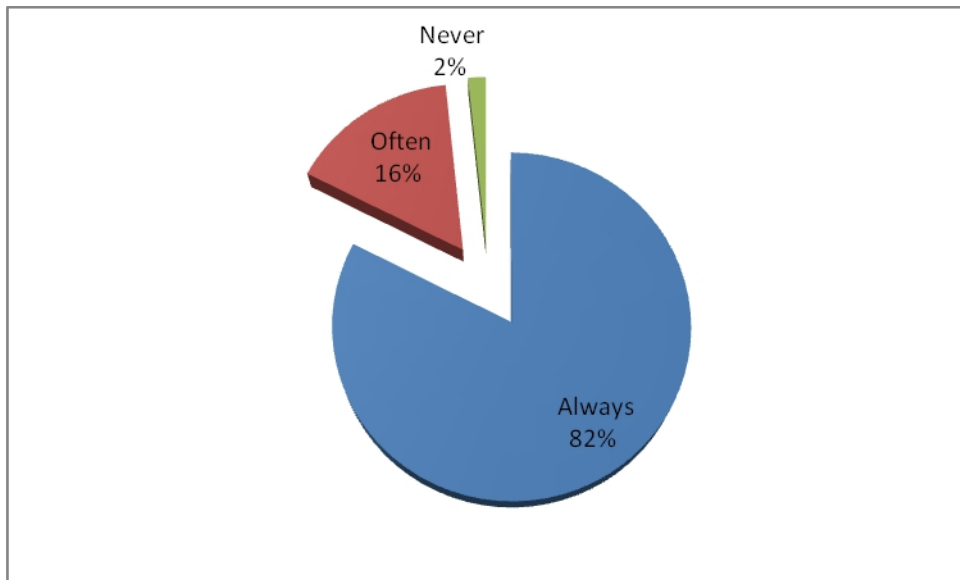


Figure number (9): Distribution of study population according to their assess level of consciousness:

The above figure showed that (82%) of study group Assessing level of consciousness always, (16%) often and (2%) Never.

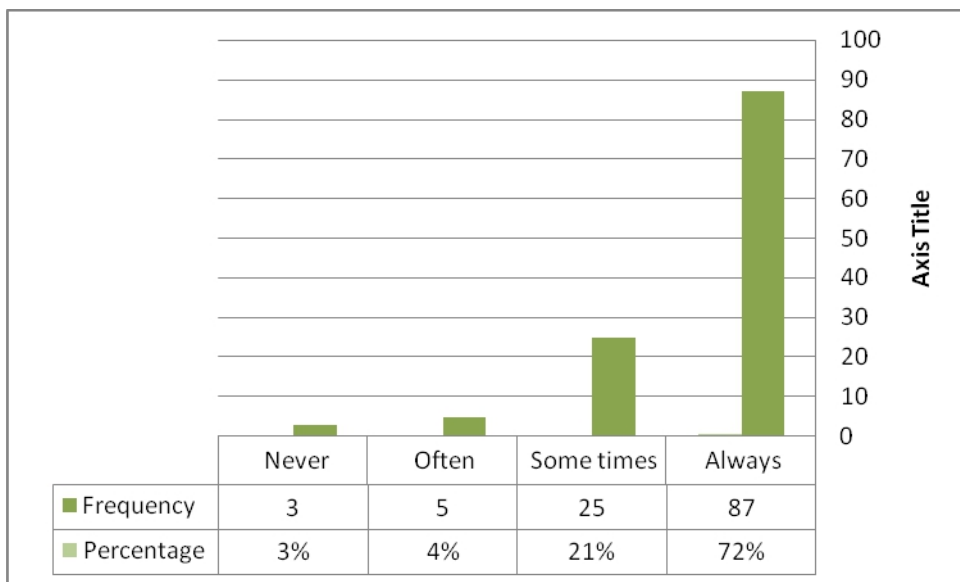


Figure number (10): Distribution of study population according to their assess breathing:

The above figure showed that (72%) of study group Assessing breathing always, (21%) sometime and(4%) often and 3% never.

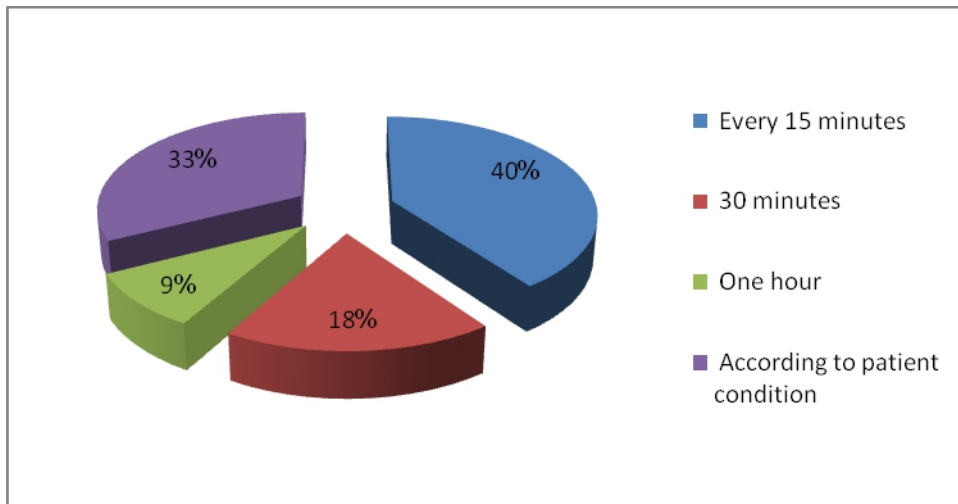


Figure number (11): Distribution of study population according to their check vital signs immediate:

The figure above showed that (40%) of study group check vital signs every 15 minutes, (18%) every 30 minutes and (9%) every one hour and (33%) according to patient condition.

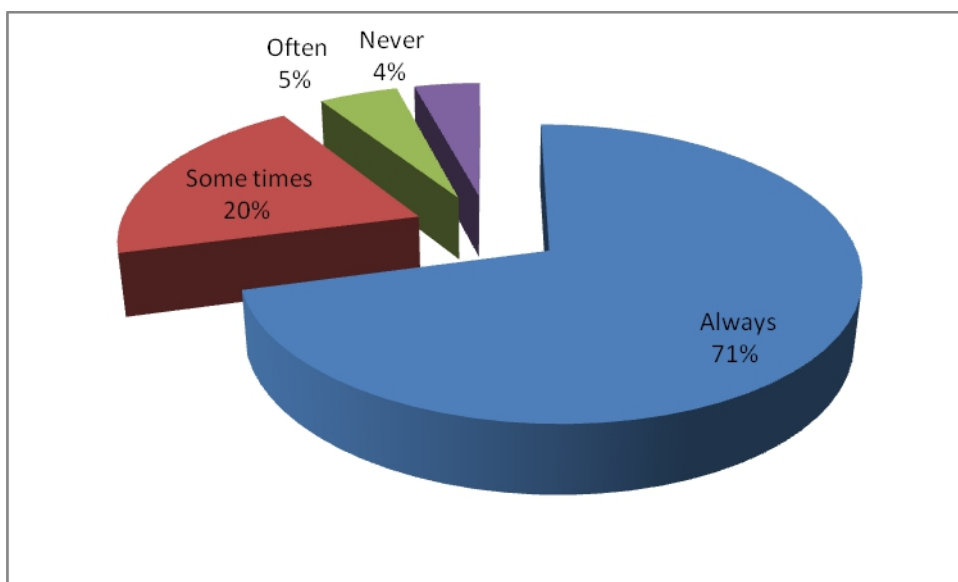


Figure number (12): Distribution of study population according to their assess operation site:

The above figure showed that (71%) of study group Assess site of operation always (20%) sometime and (5%) often and (4%) never.

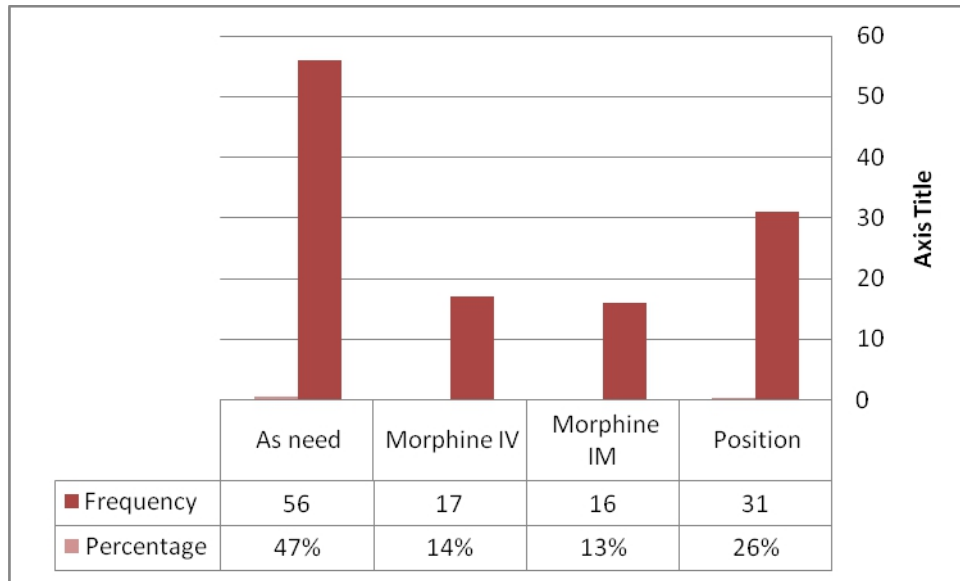


Figure number (13): Distribution of study population according to their managing pain and medication:

The figure above showed that (26%) of study group managing pain by position and (13%) by Morphine IM and (14%) by morphine IV and (7%) as need.

Table number (9): Distribution of study population according to their full assessment of drainage system:

Items	Frequency	Percentage
Yes	115	96%
No	5	4%
Total	120	100%

The table above showed that (96%) of study group had knowledge about assessing drainage system and (4%) had knowledge.

Table number (10): Distribution of study population according to their Mobilization of the patient:

Ambulation the patient	Frequency	Percentage
Don	100	83%
Non done	20	17%
Total	120	100%

The table above showed that (83%) of study group ambulate the patient don and (17%) are Non done.

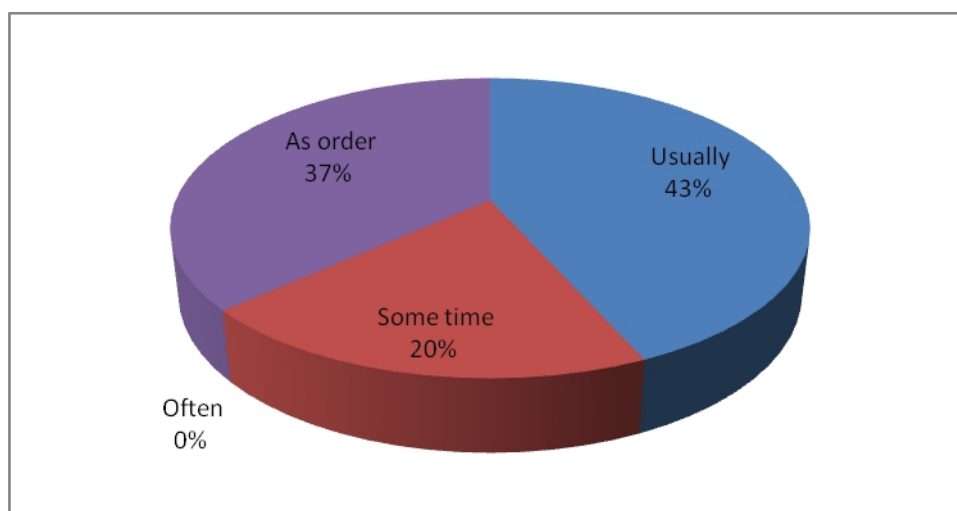


Figure number (14): Distribution of study population according to their urine output chart:

The figure above showed that (43%) of study group assess done urine output chart usually (43%) sometime and 0%often and (37%) as order.

Table number (11): Distribution of study population according to their teaching the patient about home self care on discharge:

Teaching the patient	Frequency	Percentage
Yes	119	99%
No	1	1%
Total	120	100%

The table above showed that (99%) of study group teach the patient about home self care on discharge and (1%) are Non done.

Table number (12): Distribution of study population according to their prevention of complications (pulmonary atelectasis) the nurse do:

Pulmonary atelectasis	Frequency	Percentage
Yes	120	100%
No	0	0%
Total	120	100%

The table above showed that (100%) of study group had knowledge about prevents the pulmonary atelectasis

Table number (13): Distribution of study population according to their prevention of complications (thrombophlebitis):

Thrombophlebitis	Frequency	Percentage
Yes	117	98%
No	3	2%
Total	120	100%

The table showed the (98%) of study group had knowledge about to prevent complication (thrombophlebitis) and (2%) had knowledge.

Table number (14) Cross tabulation between years of experience and knowledge about cholecystectomy meaning:

Experience		Q				Total	Asymp. Sig. (2-sided)
		Removal of gallbladder	Removal of gallbladder and ducts	Removal of stone only	I don't know		
Less than one years	Count	14	6	1	2	23	.245
	% of Total	11.7%	5.0%	0.8%	1.7%	19.2%	
1-3 years	Count	31	16	9	1	57	
	% of Total	25.8%	13.3%	7.5%	0.8%	47.5%	
more than 3 years	Count	23	14	3	0	40	
	% of Total	19.2%	11.7%	2.5%	0.0%	33.3%	
Total	Count	68	36	13	3	120	
	% of Total	56.7%	30.0%	10.8%	2.5%	100.0%	

Table (14): showed correlation between years of experience and knowledge about cholecystectomy meaning there is significant relationship P.value >0.05.

Table number (15) Cross tabulation between years of experience and checked of vital sign immediately:

Experience						Total	Asymp. Sig. (2-sided)
		Always	Often	Sometimes	As order		
Less than one years	Count	12	4	2	5	23	.009
	% of Total	10.0%	3.3%	1.7%	4.2%	19.2%	
1-3 years	Count	42	3	6	6	57	
	% of Total	35.0%	2.5%	5.0%	5.0%	47.5%	
More than 3 years	Count	26	1	6	7	40	
	% of Total	21.7%	0.8%	5.0%	5.8%	33.3%	
Total	Count	80	8	14	18	120	
	% of Total	66.7%	6.7%	11.7%	15.0%	100.0%	

Table (15) showed correlation between years of experience and checked of vital sign immediately.

Table number (16) Cross tabulation between teaching the patient about home self care and how prevent complication thrombophleptitis:

				Total	Asymp. Sig. (2-sided)
		Yes	No		
Yes	Count	106	5	111	.382
	% of Total	88.3%	4.2%	92.5%	
No	Count	8	1	9	
	% of Total	6.7%	0.8%	7.5%	
Total	Count	114	6	120	
	% of Total	95.0%	5.0%	100.0%	

Table (16) showed correlation between teaching the patient about home self care and how prevent complication thrombophleptitis.

5.1. Discussion

This study was descriptive done in Elmak Nimer University hospital from Augustus to December 2016 to assess nurse's knowledge about pre and post operative nursing management for patient undergoing Cholecystectomy.

Cholycystectomy is surgical procedure to remove the gallbladder. May be necessary if experience pain from gall stones that block the flow of bile ⁽⁸⁾.

The study presented that majority of nurses (78%) their age range between 25-30 years old, most of them (70%) had bachelor degree, and about one third (33%) had more than 3 year of experience.

In related to knowledge about Cholecystectomy clarify that more than (57%) of nurses known of Cholecystectomy definition ,and majority of them (88%) known about indication of cholycyctectomy .

This study revealed that majority of nurses known about pre operative care like checked vital signs that about tow third (67%) of nurses known about checked vital signs, majority of them (94 knowledge about fasting duration, also majority of them (97%) knowledge about informed consent. this agree with previous study ⁽⁵⁾. Which state that: the informed consent is processing which the patient and heath care practitioner dialogue treatment nature, consequences, harm benefit, risk and alternative. Study show that improved communication between practitioner and patient lead to improve patient outcome, less error and lower rate of malpractice climes. This process linked to patient satisfaction in general providing patient simplified supplemental written material using educational tool.

The study clarify the Majority of study group about (72%) transfer patient to pre surgical area this agree with ⁽⁴⁾. Which state that: The patient is transferred to the holding area or pre surgical suite in a bed or on a stretcher about 30 to 60 minutes before the anesthetic is to be given. The stretcher should be as comfortable as possible, with a sufficient number of blankets to prevent chilling in air-conditioned rooms. A small head pillow is usually provided. And (95%) of study group doing patient and family counseling.

The study showed about more than two third of study group about (82%) known how to assess level of consciousness also showed about (33%) of study group check vital signs according of patent condition .more than half of study group known to assess site of operation .and all of them had full knowledge about managing pain this agree with ⁽⁴⁾. Which state that: the location the sub costal incision is likely to cause the patient to a void turning and moving and to splint the operative site by taking shallow breaths to prevent pain. Since full aeration of the lung and gradually increased activities are necessary to prevent postoperative complications. Analgesics should be given as prescribed and the patient assisted to turn, cough, breathe deeply and ambulate as indicated. Use of pillow or binder over the incision may reduce the amount of pain during these maneuvers.

The study presented less than five (4%) of study group had weak knowledge about full assessment of drainage system.

The study show about (83%) of study group had made Mobilization the patient immediately after recovery. the most of them made urine output chart as order about (37%).

The study reflected the all of them given teaching regard self care on discharge. This study agree with ⁽¹⁰⁾. Which state that: Once you are home, it's important to keep the incision clean and dry. Your provider will give you specific bathing instructions. If stitches or surgical staples are used, they will be removed during a follow-up office visit. If adhesive strips are used, they should be kept dry and usually will fall off within a few days.

All of them (100%) known about prevention of complication pulmonary atelectasis. And thrombophleptitis. This study agree with ⁽⁶⁾. Which state that: Some people are at a higher risk of blood clots developing after surgery. This is known as deep vein thrombosis (DVT) and usually occurs in a leg vein.

This can be serious because the clot can travel around the body and could block the flow of blood into the lungs (pulmonary embolism).

You may be given special compression stockings to wear after the operation to prevent this happening.

Finally the study reveal that there was highly significant relationship between the years of experience and the knowledge of study group regarding the meaning of cholecystectomy also study fined there.

5.2. Conclusion

The study come to concluded that:

- More than half of study group had known about preoperative nursing care.
- Majority of study group had known about post operative care.
- More than half of them had known about check vital signs after recovery.
- All of them have known regard assessing drainage system. And known about managing pain as medication as order and most of them good knowledge about prevention of complication.

5.3. Recommendations

- 1- Education programs for nurses should be established about proper pre and post operative care in advanced and comprehensive manner as guideline to give high qualifies nurse by head nurse.
- 2- To apply an educational posters in nurse's office consisting of new trends in preparation and care of surgical patient.
- 3- To train new nurses about assessing vital signs, managing post operative pain by team work.
- 4- To conduct further studies about pre and post operative nursing management for patient undergoing cholecystectomy.
- 5- To make the work of ward as rotation every three months especially surgery ward acceding hospital policy.

References

1. Suzanne C. Smeltzer Brenda G. Bare Janicel Hnkle Kerry H.Cheever
Brunner Suddarth,t Text Book of Medical- Surgical Nursing Volume 2,
12th edition Copy Right 2010 page(409-419,1126,1170).
2. <http://www.medicaldictionary.com>, Date: 12\11\2016 – Time: 2.00 Pm.
3. <http://www.ncbi.nlm.nih.gov>. Date: 2\11\216 - Time: 8:30 Pm.
4. Brunner Suddarth,t Text Book of Medical- Surgical Nursing 6th edition
Copy Right 2010 by J.B.Lippincott Company Page (893,894,895).
5. <https://en.wikipedia.org.com>, Date: 16\10\2016 - Time 11.55 Am.
6. www.nhs.uk.com, Date: 16\10\16\2016 – Time: 12.20 Pm.
7. www.aornjournal.org.com, Date: 11\12\2016 – Time: 3.30 Pm
8. Priscilla Lemone, Karen Burke, Medical - Surgical Nursing Critical
Thinking In Client Care 4th edition Copy Right 2008 by person education
Inc, Upper Saddle River, New Jersey 07458. Person Prentic Hall Page (72,
73, 699).
9. Lind, S. William, Paula, D. Hopper, Understanding Medical- Surgical
Nursing Second Edition Copy Right 2003 by E.A.Davis Company (page
537
10. www.Hopkinsmedicine.org.\ [health library.com](http://healthlibrary.com), Date: 15\10\2016 –
Time: 2:00 Pm

Shendi University

Faculty of Nursing Sciences

Questionnaire to assess nurse's knowledge about nursing management for patients undergoing cholecystectomy.

PART (1):

1- Age: (A) 25 – 30 () (B) 30 – 35 () (C) 35 – 40 ()

2- Gender: (A) Male () (B) Female ()

3- Qualification: (A) Diploma () (B) bachelor () (C) master ()

4- Department:

(A) Medicine word () (B) pediatric word () (C) surgery word ()

(D) ICU () (E) CCU () (F) Obs ()

5- Year of experience:

(A) Less than one year () (B) 1-3 years () (C) more than 3 years ()

PART (2): ABOUT CHOLECYSTECTOMY:

6- Cholecystectomy means:

A) Removal of gallbladder () (B) Removal of gallbladder and ducts ()

(C) Removal of stone only () (D) I don't know ()

7- Are you know indication of cholecystectomy:

(A) know () (B) I don't know ()

PART (3): As REGARD to PRE OPERATIVE CARE:

8- Insure informed consent: (A) done () (B) not done ()

9- Laboratory test should be check:

(A) Yes () (B) No ()

10- Check vital signs:

(A) Always () (B) often () (C) sometime () (D) as order ()

(E) Non ()

11- Fasting about:

(A) 4 - 6 hours () (B) I don't know ()

12- Pre operative teaching (breathing exercise, coughing exercise, turning and lefting):

(A) Usually () (B) sometime () (C) always () (D) never ()

13- Physical preparation (skin preparation):

(A) during operation () (B) I don't know ()

14- Bladder Emptying: (A) Yes () (B) No ()

15- Transporting the patient to pre surgical area:

(A) Associate patient () (B) transfer on stretcher ()

(C) transfer with co patient ()

16- Patient and family counseling: (A) Yes () (B) No ()

PART (4): AS REGARD to POST OPERATIVE:

17- Assess level of consciousness:

(A) Always () (B) often () (C) never ()

18- Assess breathing:

(A) Always () (B) sometime () (C) often () (D) never ()

19- Check vital signs immediate:

(A) Every 15 minutes () (B) 30 minutes () (C) one hour ()

(D) according to pt condition ()

20- Assess operation site:

(A) Always () (B) sometime () (C) often () (D) never ()

21- Managing Pain & Medication:

(A) Position () (B) morphine IM () (C) morphine IV () (D) as need ()

22- Full assessment of drainage system:

(A) Yes () (B) No ()

23- About ambulation the patient: (A) immediately () (B) non done ()

24- Urine out put charge:

(A) usually () (B) sometime () (B) often () (D) as order ()

Part five: about teaching for patient:

25- Teach the patients about home self care on discharge:

(A) Yes () (B) No ()

26-To prevent of complication (Pulmonary atelectasis) the nurse do:

(A) Yes () (B) No ()

27- To prevent of complication (thrombophleptis):

(A) Yes () (B) No ()