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Investigating The Frequency And Predictive Factors of Post-Operative nausea and vomiting in Laparoscopic Surgery Patients

Hazrat Bilal
Anesthesia, Department of Allied Health Sciences Iqra National University Peshawar
Email: bilal9098@hotmail.com

Kabir Ahmad Durrani
Lecturer Anesthesia, Department Allied Health Sciences Iqra National University Peshawar Email: ka2469373@gmail.com

Abdul Basit
Anesthesia lecturer, Ahmad Medical Institute Peshawar
Email: bk8388275@gmail.com

Said Ali Shah
Anesthesia lecturer, Ahmad Medical Institute Peshawar
Email: shahsyedalishah4891@gmail.com

Emad Gohar*
Sarhad Institute of Allied health Sciences, Sarhad University of Science and Information Technology Email: emad.siahs@suit.edu.pk

ABSTRACT

This study is conducted to evaluate the patient in Peshawar region and to learn more about the post-operative nausea and vomiting in laparoscopic surgeries. The most common causes of the post- operative nausea and vomiting in laparoscopic surgeries is volatile anesthetic, surgical sites, Patient factor, post-operativepain andotherfactors. It's
important to note that PONV can be managed with various medications and techniques, and your anesthesiologist or healthcare provider can help assess your individual risk factors and develop a plan to minimize your risk of PONV. The main aim of our study to identify the reasons for the post-operative nausea and vomiting in laparoscopic surgeries. To detect the risk factors associated with post-operative nausea and vomiting and also Pre- operative evaluation of the patient to prevent the post-operative nausea and
Vomiting. In the addition prompt identification and treatment of post- operative nausea and vomiting in the post- operative period to minimize discomfort and prevent complications. Perioperative monitoring and evaluating the effectiveness of postoperative nausea and vomiting management strategies in laparoscopic surgeries to enhance care delivery and patient outcomes. It is descriptive cross-sectional

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vomiting. In the addition prompt identification and treatment of post- operative nausea and vomiting in the post- operative period to minimize discomfort and prevent complications. Perioperative monitoring and evaluating the effectiveness of postoperative nausea and vomiting management strategies in laparoscopic surgeries to enhance care delivery and patient outcomes. It is descriptive cross-sectional study of evaluating post-operative nausea and vomiting in laparoscopic surgeries. Thethesis data was taken from different hospital of Khyber Pakhtunkhwa such as Khyber Teaching Hospital (KTH), institute of kidney disease (IKD). In this study, those patients investigated having post-operative nausea and vomiting in laparoscopic surgeries.with some exceptions in Peshawar region. Were admitted in the PACU (Post anesthesia care unite) as well as from the wards.

Keywords: Cardiac Arrest, Anesthetic Medication, Laparoscopic Surgeries

INTRODUCTION

A complicated and significant difficulty in anesthesia practice is postoperative nausea and vomiting (PONV), particularly in light of the growing trend of ambulatory and day care surgical procedures.. This assessment delves into the psychophysiology of PONV and evaluates pharmacological processes for each prevention and remedy. PONV is prompted via various factors encompassing affected person characteristics, surgical processes, and perioperative anesthesia management. Danger assessment equipment just like the Apfel simplified scoring system aid in predicting PONV probability, guiding the administration of prophylactic measures. Emerging pharmacotherapy options, which include neurokinin-1 receptor antagonists, supplement established dealers like serotonin (five-hydroxytryptamine subtype three) receptor antagonists, corticosteroids, anticholinergics, antihistamines, and boustrophedon's. Combination cures, leveraging marketers with diverse mechanisms of action, decorate efficacy in moderate-hazard person patients. Moreover, a multi modal technique integrating pharmacological and non-pharmacological interventions targets to mitigate PONV risk, especially in high-threat individuals.(Shaikh et al., 2016)

As much as 75% of the sufferers present process Expansion of postoperative nausea and vomiting (PONV) during laparoscopic cholecystectomy. Although dexamethasone and ramose Tron, a serotonin subtype three (five-HT3) antagonist, are effective for PONV prevention after laparoscopic cholecystectomy, their combined effects have not yet been studied. We looked into the safety and tolerability of ramose tron combined with dexamethasone against ramose tron alone for the prevention of PONV following laparoscopic cholecystectomy.(Ryu et al., 2013). Following surgical procedures, nausea and vomiting from postoperative procedures (PONV) and postdischarge nausea and vomiting (PDNV) continue as bothersome headaches that occur every day. These difficulties are significantly exacerbated by the widespread use of opioid analgesics in perioperative pain management, which lengthens hospital stays, prevents discharge from the hospital, and raises healthcare costs. No matter

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advancements in antiemetic medicines and prophylactic techniques, the prevalence of PONV and PDNV remains excessive, driven via the upward thrust of minimally invasive ambulatory surgeries and greater restoration protocols (Elvir-Lazo et al., 2020). With a prevalence of up to 20–30%, postoperative nausea and vomiting (PONV) is the most severe unpleasant effect that is not unusual following surgery and anesthesia. One, two, three, four, and five patients evaluated nausea as the fourth (out of ten) most unwelcome adverse effect following surgery, and vomiting as the most disagreeable postoperative event.6, 7 PONV are typically self-limiting, no longer manifest as persistent, and do not result in death. However, it's been suggested that it may be linked to expanded patient pain, boom in fees, and unwarranted and doubtlessly life-threatening headaches or aspect effects3, eight, 9 consisting of bleeding, aspiration of vomit, expanded intracranial pressure or electrolyte imbalance. Additional outcomes include unexpected hospital hospitalization and delayed discharge from the post-anesthesia care unit (Moreno et al., 2013).

In modern times, postoperative nausea and vomiting (PONV) occurs in approximately every third or fourth affected individual following extensive anesthesia using unstable anesthetics. Strong evidence now exists to support the melogenic properties of volatile anesthetics, and there are no appreciable distinctions between halothane, enflurane, isoflurane, sevoflurane, and enflurane in this regard. However, the risk of PONV is reduced by approximately one fifth when propofol is used instead of unstable anesthetics, suggesting that there may be more serious causes of PONV after preferred anesthesia.A chief causative factor might be the usage of perioperative opioids, but their effect—relative to other factors including volatile anesthetics—has never been quantified. Patient-unique chance elements have additionally been shown to be clinically relevant; they're therefore covered inside the calculation of simplified threat ratings that allow prediction of a patient's risk unbiased of the kind of surgical procedure. Despite the fact that arguable, the famous exclusive incidences following positive kinds of surgical operation are maximum probable resulting from affected person-particular and anesthesia-associated hazard factors (Apfel et al., 2005).

In many countries, the use of primary ambulatory surgical operations (MAS) has recently contributed to the resolution of hospital bed shortage situations and the reduction of healthcare costs. Additionally, MAS has lowered surgery waiting times and increased patient pride.1. Laparoscopic surgery has become the preferred method for gallbladder surgery in recent years, and it has had positive outcomes for a variety of benign gynecological conditions.two, three. PONV, or postoperative nausea and vomiting, is a common issue that contributes to wound dehiscence, patient discomfort, prolonged hospital stays, and exorbitant costs. In high-risk patients

Undergoing gynecological laparoscopic surgery, the prevalence of PONV might reach up to 80%.2. Vomiting is classified as a complicated nerve reflex and is primarily triggered by four pathways: location, postrema, forebrain, gut vagal afferent fibers, and vestibular entry. Through cholinergic channels, stimulation of these afferent routes may trigger the sensation of vomiting. Five-serotonergic, histamine, dopaminergic, or muscarine receptors (Blackman, 2023).

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Postoperative nausea and vomiting, sometimes known as "the little massive trouble," are typical side effects following surgery or anesthesia that can compromise patient care, postpone discharge, and prevent patients from returning to their regular activities. Numerous research have been conducted to identify risk factors, preventive measures, and therapeutic approaches**.** Inhaled or intravenous anesthetics can be used to provide popular anesthesia. Due to its well-established, potent effects on pain, PONV, and healing time, intravenous anesthetic with safe and tangential needles is being used in outpatient procedures an increasing amount.Ten, Eleven There is no good evidence for the effects of propofol and alfentanil on reduced PONV, according to a meta-analysis. The purpose of this study is to assess the effects of propofol for intravenous anesthesia and isoflurane for inhaled anesthesia on the incidence and severity of postoperative nausea and vomiting (PONV) in patients undergoing laparotomic surgery. Of particular interest to us was the assessment of the postoperative antiemetic efficacy of remimazolam and propofol as common anesthetics in patients who underwent laparoscopic gynecological surgical operation. Emimazalam was demonstrated to be just as effective as propofol in preventing postoperative nausea and vomiting (PONV). Their findings have significant ramifications because PONV is still a prevalent and painful surgical complication with delayed recuperation and increased utilization of healthcare resources (Shaikh, 2016).

With the exception of the limitations stated by the writers in their discussion section, there are a lot of issues with this observation that are not adequately addressed. First, based on the distinction within the prevalence of PONV among sevoflurane- and propofol-based totally anesthesia regimens pronounced in preceding work, the authors decided on a discount in PONV occurrence of 34% as the effect size to evaluate the pattern length of this observe. Available proof suggests that inhalation anesthesia is an acknowledged hazard component of PONV, and the incidence of PONV is appreciably decrease when the use of propofoland anesthetic regimens based on remimazolam as opposed to inhalational anesthesia (Matsuura, 2016).

We are concerned about the use of records from the studycomparing the prevalence of PONV

Between inhalational anesthesia and propofol-based total anesthesia because the main goal of this examination is to assess the effects of intravenous anesthetics with a significant antiemetic effect on the occurrence of PONV. The impact length would have significantly underestimated the pattern size of this study and created a type 2 statistical error opportunity for their findings.

Laparoscopic Procedure

History: The laparoscopic surgical procedure has evolved over many years, making it difficult to identify a single individual as the technique's creator. Georg Kelling of Dresden, Germany, first performed laparoscopic surgery on puppies in 1902, while Hans Christian Jacobaeus of Sweden applied the technique to a human in 1910. With the help of certain humans, the technique became delicate and popular over the course of the next few decades. The advancement of laparoscopy was significantly aided by the invention of the

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computer chip TV digital camera, which allowed the procedure to be performed while a projected image of the stomach contents was being viewed. **.** As well as offering a higher view of the internal systems, this additionally allowed unfastened motion of the health care professional's palms, making it easier to carry out greater complex tactics. Earlier than the development of the camera, this approach become reserved only for diagnostic purposes and some easy surgical procedures in gynecologic programs. Raoul Palmer co-wrote and published a handbook on diagnostic laparoscopy in the early 1950s. Henry Clarke invented, published, and documented a laparoscopic procedure in 1972**.** the use of devices made in Buffalo, New York by the Venn Device Company. Subsequently, J.C. Tarasconi of the College of Passo Fundo announced at the third AAGL meeting in Atlanta, held in November 1976, that laparoscopy was being used for the first time to do organ resection. Later, in 1981, his paintings were published in the Journal of Reproductive medication, marking the first instance in which laparoscopic surgical excision was documented in clinical literature (Hatzinger, 2006).

Laparoscopy: Laparoscopic surgery, also known as "minimally invasive" surgery, is a specialty kind of surgery. In the past, this method was typically employed for gallbladder surgery and gynecologic surgical treatment. Over the past ten years, this approach has been used more often for colon surgical procedures. In a traditional "open" surgical procedure, the physician makes an unmarried incision to access the stomach. Laparoscopic surgery requires many incisions of 0.5– 1 cm. Everycut is referred to as a "port."(7) A trochaic, which is a tubular device, is placed at each port. Throughout the procedure, specialized devices and a special digital camera called a laparoscope are used by the trochaic. In order to give the medical professional a workspace and observation area, the abdomen is first inflated with carbon dioxide fuel**.** Using a laparoscopy, high-definition video display units in the running room receive still images taken from the abdominal cavity. Throughout the procedure, the physician views specific images of the stomach on the screen. With fewer incisions, the physician can do the same procedures as with traditional surgical care thanks to this equipment (Hatzinger, 2006).

In positive conditions a health care professional may additionally pick out to use a unique form of port this is massive enough to insert a hand. Whilst a hand port is used the surgical approach is called "hand assisted" laparoscopy. The incision required for the hand port is greater than the opposite laparoscopic incisions, but is commonly smaller than the incision required for traditional surgery.

The American Society of Anesthesiologists (ASA) 1 and a small number of individuals have a general incidence of 25%–30% PONV; however, for ASA 3 and higher patients (high-chance patients), the incidence can reach as high as 70%–80% (12**).** Despite the widespread use of prophylactic antiemetic medication, the prevalence of PONV remains high (13). Age, gender, previous conditions, premedication, records of PONV, surgical technique, anesthetic retailers, analgesic tablets, duration of anesthetics, and postoperative morbidity are all linked to an increased risk of PONV (5) This analysis helps to identify the benefits and associated variables of PONV in order to develop management plans to reduce its incidence and establish baseline data for upcoming studies and health application

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planners. This study sought to assess PONV below standard anesthetic prevalence and associated variables in Debre Tabor comprehensive specialist sanatoria (Sinha, 2022).

Laparoscopic surgical treatment has numerous advantages over conventional surgery. Because it involves much less reducing: Less pain as compared to open procedures faster healing smaller incision Minimize postoperative pain and analgesic requirements Minimum blood loss faster recovery and discharge Provide better visualization for surgeon reduced the chance of infection less incidence of co-morbidities (Allene, 2020).

Benefits: Compared to an open treatment, less pain quicker recuperation smaller cuts decreased chance of infection

Risks: hemorrhage, infection, hernia, and the possibility of internal structure damage, including blood vessels, the stomach, colon, bladder, or ureter, as well as bad anesthesia-related responses, abdominal inflammation, or infection.

Nausea: Nausea is characterized by discomfort in the epigastrium, or stomach, accompanied by a conscious want to throw up. Perhaps you consumed something that your stomach overlooked. Or maybe you're using the majority of cancer treatments. It can be among the initial indications that you are expecting. A queasy feeling in the back of your throat or an uneasy feeling in your stomach is called nausea. Additionally, you might feel lightheaded, disoriented, or have difficulty swallowing. While nausea frequently coexists with the need to throw up, vomiting is not always the outcome. The forceful evacuation (or "throwing up") of stomach contents through the mouth is known as vomiting. When you throw up, the muscles in your stomach contract (settlement), forcing the contents of your stomach up through your esophagus and out of your mouth. Vomiting and nausea are not illnesses; rather, they are signs of several distinct circumstances.

Signs and symptoms: Feeling like you are about to vomit, Stomach discomfort or pain, Abdominal cramps, Bloating or gas, Increased salivation, Pale or clammy skin, Frequent burping, Loss of appetite (Allene, 2020).

Retching: Is the opposite movement retro peristalsis of the stomach and esophagus without vomiting it is able to be because of horrific smells or choking, or by withdrawal from certain medicines, like chemotherapy drugs, opioid medicine, NSAIDS and antihistamine.

Signs and symptoms: Nausea, Feeling as if you need to vomit but cannot, Chills, Sweating, Abdominal pain, Indigestion.

Vomiting: The forceful, involuntary release of stomach contents through the mouth and occasionally the nose is known as vomiting. Vomiting is typically not a sickness in and of itself, but rather a symptom of a number of illnesses, including shock, CHF, stomach cancer, and peptic ulcer disease.

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Vomit relating complications: Dehydration, Electrolyte imbalance, Acid-base

imbalance, Aspiration, Malnutrition, Raised ICP.

Mechanism of vomiting: Vomiting, also referred to as emesis, is a complex manner through which the frame expels harmful or unwanted substances from the stomach and intestines through the mouth. The mechanism of vomiting entails the coordination of multiple organs and systems, which includes:

Brain: The vomiting center located in the mid brain, in the positioned of the medulla oblongata, receives signals from various resources, such as intestine, blood, and other parts of the brain.

Intestine: The gut detects the presence of dangerous substances and sends impulses to t he brain through the vague nerve.

Vague nerve:This nerve transmits signals from the intestine to the brain and also stimulates the muscle within the gut to contract and pass contents upwards.

Gut muscle: The abdominal muscle mass contract to increase pressure in the stomach and help force contents up into the esophagus

Decrease esophageal sphincter muscles barrier: This muscle relaxes, to allow the gastric Contents to pass from the stomach into the esophagus.

Esophagus: The esophagus contracts and movements the contents up into the mouth.

Diaphragm: The diaphragm descends to create pressure inside the chest cavityas a result the gastric contents expels from the mouth.

METHODOLOGY

Study Design

This descriptive cross-sectional study

Study Setting

The studywas conducted in two hospital of Peshawar given below.
Khyber Teaching Hospital (KTH).
Institute of Kidney Disease (IKD).

Sample Size

The sample size 92 patients.

Confidence Level: 95% (Z = 1.96)
Expected Proportion (p): 30% (0.30). [This is based on the known high-risk baseline incidence of PONV.]
Margin of Error (e): 9.4% (0.094).
The final calculation is: $n_0 = (1.96^2 \times 0.30 \times 0.70) / 0.094^2 \approx 92$

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Prevalence and risk factors of post-operative nausea and vomiting in a tertiary-care hospital: A cross-sectional observational study.

Sample and Sampling

Calculated byRao soft calculator byputting 120 as patient population size with 5% margin error

Sample Selection Criteria

Sample selection is based on roast calculator and factors which includes; patients have undergoing laparoscopic procedure, patients have complaint of nausea or vomiting within 48 hours, patient have above 5 years undergoing laparoscopic surgery

Inclusion criteria

All patients who have laparoscopic procedures and have Post-Operative Nausea And Vomiting are included in the study..

The studyincludes both male and female

All those patients are included who have complains of nausea and vomiting within 48 hours in laparoscopic procedures.

Exclusion criteria

Patients with Post-Operative Nausea And Vomiting who
have not undergone laparoscopic surgery were not included in the research.

Patients below age 5 years.

Patients who have nausea and vomiting after 48 hours of laparoscopy.

Data Collection Procedure

Informed consent is taken from the participant before distributing questionnaire. 92 cases that meet the eligibility criteria and have been identified in PACU, recovery room, and surgical wards and have responded to inquiries about PONV laparoscopic surgery will be included in the study after receiving approval from the local ethics committee. The understanding demographic profile will be recorded on exceptional composed Performa.

Data Analysis Procedure

Data was analyzed was using different tools. The collected data was entered in Microsoft excel and arranged through it. The variables incorporate demographic (above 5 years) and gender (male and female) type of surgery (emergency and elective), analgesia (opioids and NSAIDs). PONV laparoscopic surgeries, its grades and agent discoveries (frequencies of different disease, percentage, groups and age groups). The frequencies of diseases, Gender ratio (%), Age ratio (%) were displayed as Tables and figures..

Ethical consideration

The rules and regulation was set bySarhad Universityof health sciences & information technology committee will be followed while conducting research

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All participants were provided with detailed information about the study's purpose, procedures, risks, and benefits.
Participants were given sufficient time and opportunity to ask questions and seek clarification before consenting to participate.
Informed consent was documented through a written consent form, signed byeach participant prior to data collection.
Personal identifiers were removed or coded to protect participant anonymity. 5. Data was stored securely, with access limited to authorized research personnel

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RESULTS

In this study, we made an effort to classify the frequency distribution of post-operative nausea and vomiting following laparoscopic surgery according to various age and sex categories. Of the patients in the gender group, 18 (19.56%) are male, and 4 (4.34%) have had nausea and vomiting following surgery 13 (14.13%) of the 74 (80.43%) female patients who underwent laparoscopic surgery experienced post-operative nausea and vomiting. Patients undergoing laparoscopic surgery are more likely to experience post-operative nausea and vomiting than male patients.. In the age group, we have different subgroups from 10–19 years, which are 2 (2.17%) patients. From 20-29 years, there are 5 (5.43%) patients; another subgroup is 30-39 years, with 21 (22.82%) patients, another is from 40-49 years, with 28 (30.43%), other is 50-59 years with 28 (30.43%)patients, another is 60-69 years with 7(7.60%) patients, and the last one is from 70-79 with 1(1.086%) patient.

Demographics of the Participants

Out of a total 92 patients, most of the cases were observed negative. About 75 cases were Figure
Shows the number of Total, Positive, Negative, Male and Female cases.negative in both gender, most of the negative cases was observed in case of female patients, while less in male. In the case of positive cases, female was the dominant in 13 of cases followed by male, rest of the details is shown in Table 1 and Figure .1.

S. No	Total cases	Frequency	Percentage
1	Total male cases studied	18	19.56%
2	Total Female cases studied	74	80.43%
3	Male positive cases	4	4.34%
4	Female positive cases	13	14.13%
5	Total positive cases	17	18.47
6	Total negative cases	75	81.52
7	Total studied cases	92	100%

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TYPE OF SURGERY

Comparison between the emergency and elective cases of post-operative nausea and vomiting in laparoscopic surgeries. According to the collected data we assess the 92 patients here we compare the patients on the basis of surgery types (emergency and elective). The total positive cases are 17 while the negative cases are 75. So the rate of elective cases are 87 and the emergency cases are 5. The positive and negative cases of the elective surgery are 14:73. While the positive and negative cases ratio of emergency surgery 3:2

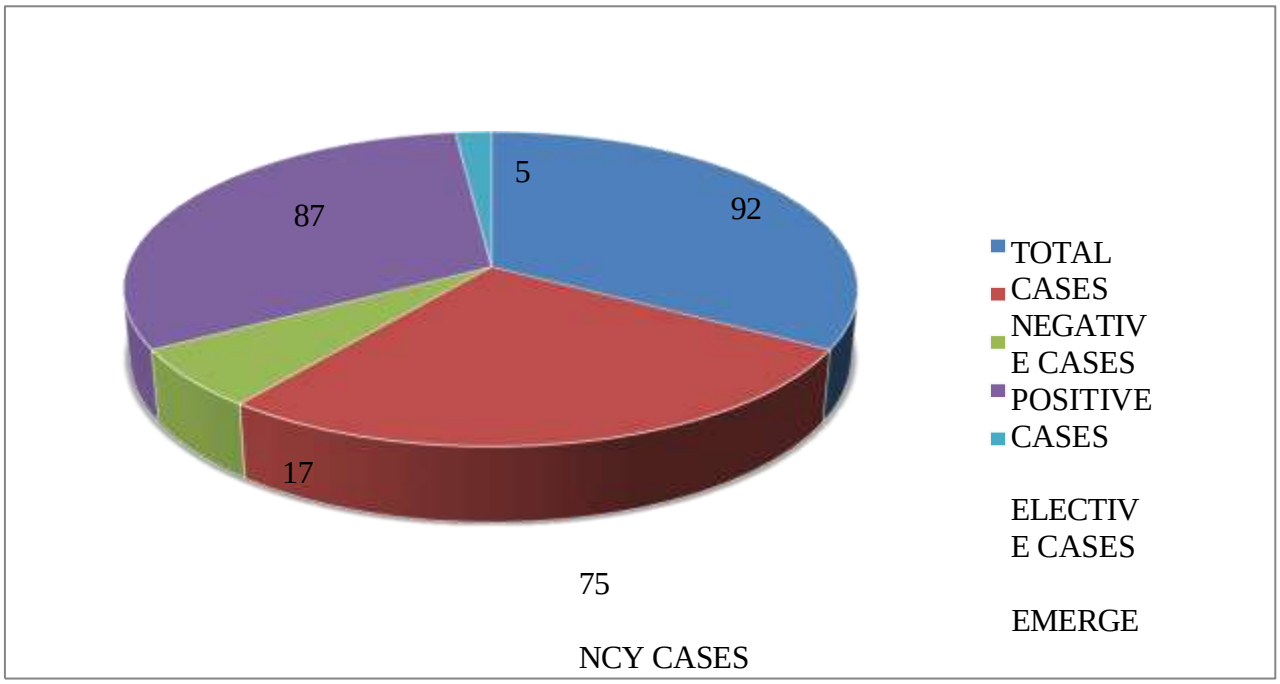


Figure 2: Various Types of Surgeries of the Participants

Post Operative Nausea and Vomiting in Laparscopic Surgeries

The data represented the incidence of post operative nausea and vomitingin laparscopic surgeries of those patients who received opioids and non opioids for their pain management. The total cases we study are 92. out of 92 the 32 patients are opioids received, 60 patients are non opioids received. The total positive cases are 17 out of 92 in which 7 patients are opioid positive cases while 10 patients are non opioids positive cases are seen.

Table 3: Numbers of Post Operative Nausea and Vomiting in Laparscopic Surgeries

Total Case	Opioids Received	Non Opioids Received	Total Positive Cases	Opioids Positive Cases	NonOpioids Positive Cases

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92	32	60	17	7	10

Figure 3: The graph show the incidence of PONV in laparoscopy for opioids and non-opioids patients.

DISCUSSION

A complicated and significant difficulty in anesthesia practice is postoperative nausea and vomiting (PONV), particularly in light of the growing trend of ambulatory and day care surgical procedures**..** This assessment delves into the psychophysiology of PONV and evaluates pharmacological processes for each prevention and remedy. PONV is prompted via various factors encompassing affected person characteristics, surgical processes, and perioperative anesthesia management. Danger assessment equipment just like the Apfel simplified scoring system aid in predicting PONV probability, guiding the administration of prophylactic measures.

This study was conducted in two hospitals in Khyber Pakhtunkhwa, including, institute of kidney (IKD), Khyber teaching hospital (KTH). This study was conducted in the KPK (Peshawar) area to ascertain the prevalence in patients with PONV in laparoscopic surgeries and to be aware of how to prevent PONV in laparoscopic surgeries through proper peri-operative assessments. 92 patients made up the sample.

To ascertain which component of PONV in laparoscopic procedures is most commonly distributed in a particular geographic area, numerous research have been conducted in the past. In addition to helping to resolve public health concerns, a study of this information is helpful in selecting the best course of treatment for these patients.

A total of 92 PONV in laparoscopic surgeries patients were examined on real time which confirmed 14 (15.217%) post-operative nausea and vomiting in laparoscopic surgery and 74 (80.434%) with no post-operative nausea and vomiting in laparoscopic surgery. The study shows that most of the patients are female 13 (14.13%), compared to male 4 (4.34%). The results show that most of the patients involved in the study are adults which is age 18-80 years

In this study, we made an effort to classify the frequency distribution of post-operative nausea and vomiting following laparoscopic surgery according to various age and sex categories. Regarding the gender group, there are 18 male patients (19.56%), of whom 4 (4.34%) have experienced post-operative nausea and vomiting following laparoscopic surgery, and there are 74 female patients (80.43%), of whom 13 (14.13%) have experienced the same. Patients who undergo laparoscopic surgery are more likely to experience post-operative nausea and vomiting than male patients. In the age group, we have different subgroups from 10–19 years, which are 2 (2.17%) patients. From 20-29 years, there are 5 (5.43%) patients; another subgroup is 30-39 years, with 21 (22.82%)

patients, another is from 40-49 years, with 28 (30.43%), other is 50-59

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According to the collected data we assess the 92 patients here we compare the patients on the basis of surgery types (emergency and elective). The total positive cases are 17 while the negative cases are 75. So the rate of elective cases are 87 and the emergency cases are 5. The positive and negative cases of the elective surgery are 14:73. While the positive and negative cases ratio of emergency surgery. S graph and chart in result chapter for further study.

The information showed the frequency of post-operative nausea and vomiting following laparoscopic procedures for patients whose pain was managed with opioids and non-opioids. There are 92 cases in total that we are studying; 32 of those patients have received opioids, and the remaining 60 patients have not. Out of 92 patients, 17 have positive cases overall, of whom 10 have non-opioid positive cases and 7 have opioid positive instances. For additional research, see the graph and graphic in outcome chapter 4.3.

In comparison Patients who receive opioids during surgery are more likely to experience postoperative nausea and vomiting. The incidence of PONV is decreased when multimodal analgesia is used in conjunction with decreased intraoperative opioid dosing. It has been demonstrated that opioid-free anesthesia lowers PONV, resulting in a quicker recovery after surgery and higher postoperative patient satisfaction. After surgery, PONV was not recorded in the 12 or 24 hours. Although not statistically significantly, preoperative dexamethasone treatment and the use of nonopioid analgesics have reduced the incidence of nausea and vomiting in patients receiving opioid-free anesthesia.(24)

This paper reports that after a laparoscopic cholecystectomy, vomiting occurred in 44.7% of patients using a standard surgical and anesthetic method; however, the numbers significantly decreased after 4 mg of ondansetron was administered at the end (28.9%) or before (25.5%) anesthesia. Together, the frequency of severe instances dropped from 19.2% in the control group to 8.9% and 4.3%, respectively, in the active groups.

When given intravenously, 4 mg of ondansetron successfully lowers vomiting in over 40% of patients following laparoscopic cholecystectomy, particularly in severe instances. This benefit is

most noticeable when the drug is supplied prior to the procedure. The preparation is safe; none of the individuals under study experienced any difficulties or adverse reactions in the lab or clinic (Vimláti L, 2002)

Conversely, the females were younger and weighed less than the males ($p<0.001$). For 50% of women and 30% of men, the body mass index was within the normal range ($p < 0.001$). Women had pain more frequently at 1, 6, 12, and 24 hours following surgery ($p<0.02$). For 60 women and 19 men, narcotics were needed in addition to the amounts used to reduce pain intensity ($p = 0.01$) ($p < 0.001$). At one and six hours following surgery, PONV was more common in women ($p<0.01$). Eleven men and thirty-five women needed rescue antiemetics ($p = 0.008$). Men's hospital stays were shorter ($p<0.001$). Postoperative problems occurred in four individuals in each group ($p = 0.14$). Mortality did not exist (Salazar-Parra M 2020).

In a similar vein, patients in Group S required significantly less tramadol or

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antiemetic and had significantly lower rates of PONV from postoperative days 0 to 1 than those in Group H (P = 0.0085). The incidence of PONV was considerably lower among patients in Group S who were at low risk compared to those in Group H (P = 0.0129). Additionally compared to Group H, Group S required less extra tramadol (P = 0.0021).By incorporating SIVA into the LGS postoperative pain management protocol, the likelihood of PONV and the quantity of additional antiemetic medicine needed between postoperative days 0 and 1 may be decreased. Depending on the patient's risk profile, antiemetics should be utilized for PONV prophylaxis in patients receiving LGS; nevertheless, SIVA prophylaxis is applicable to all patients, independent of PONV risk profile (Taniguchi H, 2020).

CONCLUSION

Under the heading "investigating the frequency and predictive factors of post-operative nausea vomiting in laparoscopic surgery patients," we have carried out a descriptive cross-sectional study we have selected the population size of 120 patients which calculated on Rao soft calculator which provided sample size of 92 patients with 5% error margin. Data was collected in Peshawar region a+ category hospital, Khyber teaching hospital (KTH) and institute of kidney diseases (IKD).

The study comes to the conclusion that post-operative nausea and vomiting (PONV) is more common in women than in men following laparoscopic surgery, and that most cases affect those over the age of 60. The severity of post-operative nausea and vomiting in laparoscopic surgery are seen on 7-8 grades on apfel scaling techniques. Total we study 92 patients among these 74 (80%) patients are females and 18 (19%) are males. the total positive cases is 17 and among these the females positive cases is 13 (14%) and male positive cases is 4 (4.5%).This study makes room for a follow-up investigation on the greater frequency of post-operative nausea and vomiting following laparoscopic surgery in women relative to men. in laparoscopic surgical treatment sufferers, enabling healthcare providers to tailor prophylactic strategies to character patient wishes.Price-Effectiveness evaluation to conduct a cost-effectiveness analysis of various Antiemetic prophylaxis techniques in lap aroscopic surgical procedure, thinkingaboutboth direct clinical charges and oblique fees related to affected person effects and useful resource utilization.

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