

Patients' perceptions and experiences of Laparoscopic cholecystectomy VS Kocher Incision cholecystectomy: A qualitative phenomenological approach study at various hospitals of Pakistan

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Abstract

Cholecystitis is a common disorder in Pakistani population which affects the life of individual, pre and post operatively. Repeated pain episodes cause frequent visit to the emergency reception and repeated hospital admissions for symptomatic treatment, until individual decides for the gall bladder surgery. Cholecystectomy is the most common surgical treatments for cholecystitis and cholelithiasis. This phenomenological study was conducted to get a deep understanding of patients' perceptions and experiences about the disease and treatment. Ten women and 6 men were scheduled for collecting data. All were explained about the purpose of study and an interview guide was developed containing only two questions. Same questions were sent to health care professionals as an opinionnaire. The answers and responses were categorized in four main themes by using qualitative software NVIVO. These four themes describe the patient's feelings toward their cholecystitis, Cholelithiasis and cholecystectomy experiences. The patient's themes indicated they were consumed with feelings of: (a) Fear of large scar vs Blind holes over entire abdomen (b) Pain Perception & Pain Experiences (c) Certainty vs Uncertainty (d) Yearning for speedy recovery. The mentioned findings revealed that individuals with gallstone disease experience, expressed their feelings of fear of large scar at gall bladder area, or afraid of making four holes over entire abdomen. The perception of pain was found equal in both surgeries, fewer reported less pain in Kocher incision and fewer reported infection in one or two of the four holes on the abdomen. Uncertainty was found more health care professionals vs laymen and women. Some participants responded that laparoscopic surgery was opted due to less length of stay in the hospital.

Introduction

Acute cholecystitis is an inflammation of the gallbladder due to infection in biliary tract or gall bladder itself. Infection is most commonly associated with gallstones (cholelithiasis) (Halpin & Gupta, 2011). Cholecystitis due to infection or presence of gallstones is a major health problem with a growing population of the Asian World for the reason behind is that the dietary pattern they follow. (Stinton, Myers, & Shaffer, 2010). Individuals with acute cholecystitis report with the pain in right upper quadrant or in epigastric area. This pain remains continue from 12 to 24 hours. The chronic dull aches and indigestion may represent gall stones. Both types of gall bladder diseases, can also present general malaise, low grade fever, chills, nausea and vomiting. (Elwood, 2008). Due to this particular disease burden, the healthcare consumption increases radically in patients with cholelithiasis and cholecystitis, and is linked with several hospital visits and re-admissions (Anwar, Ahmed, & Bradpiece, 2008). For the pain management and symptomatic treatment, an individual visits emergency reception at least thrice a time or more before taking decision for the surgical or laparoscopic removal of gall bladder. The advance digital technology has brought ample awareness to

the suffering population about the options of surgeries along with advantages and disadvantages of various surgical approaches. Recent research studies have shown that focus has been changed to laparoscopic cholecystectomy (Less Invasive procedure) instead of Kocher's incision surgical procedure for cholecystitis, which is made at right sub coastal areas over upper abdomen (Barthelsson et al., 2003; Barthelsson et al., 2008; Wolf, Nijse, Sokal, Chang, & Berger, 2009).

Literature review

Aly and Hokkam conducted a study in 2014 and concluded that early introduced laparoscopic cholecystectomy was usually associated with reduced hospital stay, sick days, and less hospital expenditures. The number of admission and readmissions were also less. The overall satisfaction level was found high. Laparoscopic cholecystectomy showed a significant reduction in length of hospital stay and fewer operative complications. Another study analyzed the differences in pain perception and pain experiences, scar awareness, operative and recovery time, post-operative complications and hospital stay. The data was taken from patients, health care team and also opinions were taken from surgeons and nurses who were working in surgical departments. Results of the study identified more pain perception but less pain experiences in health care professionals and vice versa in ordinary patients. The laparoscopic approach led to shorter hospital stay and some post-operative complications than open surgery in all patients. Operative time did not fluctuate between the two access routes. Health care professional preferred open surgery and non-medical personnel opt for laparoscopic procedure (Rubert, Higa, & Farias, 2016). A research done by Gangemi et al. in 2016. They examined the open surgical method of gall bladder removal, minimally invasive surgical approaches that are laparoscopic and robotic surgery. The researchers perform the majority of the gallbladder surgeries all the way through the robotic approach and few surgeries were performed through laparoscope. Open surgeries are not taken into study account. The robotic surgical instrument allows the surgeon the same freedom of movement as a human wrist in the operative site, along with a 3D camera view. The laparoscopic and robotic surgical approaches both characterize austere invasive surgery approach and are associated with less pain, faster recovery and better cosmetic outcomes when compared to traditional open surgery. The patient satisfaction, scar measurement, and complications were not mentioned in the study and also not concluded that which approach is the best one. Koirala & et. al. reported in their study about the complications of laparoscopic cholecystectomy. They mention that out of 530 patients, 500 patients had laparoscopic surgeries and 30 % patients encounter various complications, including bile leak from duct of Lushka, bile extravasations, bilomas, bile duct injury, obstructive jaundice, and Bismuth type II bile duct stricture. All complications were later managed medically and surgically. Branum, G and et al also reported in their study conducted in 2015. That internal bleeding and bile duct injuries are the most fearful complication of this blind procedure. They defined these injuries as disruption in any part of the major extra-hepatic biliary system. Bile leakage due to cut or biliary fistula, biliary ascites, and biliary peritonitis were the reported post-operative complications. They concluded that pre-operative considerable assessment by experts, and a peri-operative multidisciplinary approach is required for this procedure. The results of a study done by Rao and et al has shown some positive results for laparoscopic cholecystectomy for cholecystitis, in an ambulatory setting in terms of patient's satisfaction, less time in hospital, certainty, safe alternative to the traditional open surgery and small scar on abdomen. They believe that ambulatory laparoscopic cholecystectomies are safe in elderly patients as demonstrated by low post operative complication rates. (Rao, A, and et al 2017). Previous research was focused mainly on surgical aspects and postoperative complication rates after surgery of both accesses laparoscopic cholecystectomy and open cholecystectomy, and less attention was being paid on patients' perceptions, feelings, expressions and experiences and nursing management aspect. A qualitative study was conducted by Barthelsson, Lutzen, Anderberg, and Nordstrom in 2013 which was aimed at exploring patients' experiences of above-mentioned surgical procedures for removing the gall bladder. The data of twelve patients were taken, coded, categorized and analyzed through, manual qualitative analysis. Their findings of the responses, demonstrated that individuals with gallbladder disease experience dissatisfaction, fear of death, restrictions in their daily life and feelings of socially isolated. Experience of reported postoperative pain varied greatly. Few participants had a reversion of pain very after fourth post-operative day to a week after. The participants demanded for

additional pain medication and reported nausea and vomiting too. The verbalized the need of getting health education about wound and daily life routine care week by week.

Material and Methods

This was a qualitative study designed with phenomenological approach. Phenomenological approach is an appropriate research design to study phenomena within its context and aims to develop good understanding of lived experiences and their meanings (Creswell, 2007, Lauterbach, 2007). By using phenomenological approach, patients' experiences about cholecystectomy choices, and reasons to select particular procedure are measured. This study was conducted at various army and civil hospitals of Pakistan. Patients were selected through snowballing sampling as participants referred the researchers to other post-operative patients. All of the patients who were approached gave consent and showed willingness to give data about their choice of operation methods as post surgery lived experience. Interviews for this study were conducted postoperatively with patients who had experienced laparoscopic or surgical cholecystectomy procedure. The following participants were included in the study: The age range was between 30 to 50 years old, healthy and no co-morbid, able to speak and understand Urdu and English. Participants excluded from the study were, who had abdominal surgical procedures within the past one year, and whose surgery extended in an exploratory laparotomy or other surgical intervention due to any reason. Ethical considerations have been taken care as verbal institutional and individual consent.

Data collection

Data were collected by face-to-face interviews by using interview guide and through standard whatsapp messages. The interview questions and probes were developed by the researchers.

Q1. Please tell me what is your opinion/ your experience about open cholecystectomy and laparoscopic cholecystectomy. Probing words were, pain, scar, and length of stay in hospital.

Q2. Please describe your feelings in detail about your illness. Probing words were, satisfaction, fear, needs and uncertainty.

Depending on the situation, these questions with probes were used with each respondent. Same text was sent to surgeons and surgical nurses to take their opinions. All interviews were recorded to guarantee accurateness of understanding and transcription of verbatim by the researchers. The post-operative interviews involved sixteen patients who experienced the cholecystectomy procedure. Among of them eight were operated through using laproscope and eight were done by making surgical Kocher incision. Most of the participants were females. The total sample size was twenty-six including, patients, surgeons and nurses. The bracketing was taken care throughout the procedures of interviewing. The saturation was attained after interviewing of fourteen patients but two more interviews were taken to ensure saturation of data. Opinions were taken from one physician scientist, one general physician, three surgeons and four surgical nurses. All responses were entered on the NVIVO spread sheet and then analyzed for common themes. NVIVO gave results of four main themes by categorizing the responses.

Findings and formation of themes with discussion

The following themes describe the patient's feelings toward their cholecystitis and cholecystectomy experiences. The patient's themes indicated they were consumed with feelings of: (1) Fear of large scar vs Blind holes on operating site, (2) Pain Perception & Pain Experiences (3) Certainty vs Uncertainty (4) Yearning for speedy recovery.

1. Fear of large scare vs blind holes on operating site

The most reported response was about the surgical scar of cholecystectomy. Few research participants favored the laparoscopic surgery and by verbalizing the perceived feeling.

Patient's Verbatim. *Laparoscopic is better than open surgery because I cannot bear a big incision on abdomen, small holes are OK with me.....* Unquote.

Patient's Verbatim. *I am afraid of too many stitches, but I have heard that laparoscopic operation will not cause too many stitches* Unquote.

Patient's Verbatim. *I decided to undergo new technology operation because new trends are always good and mobility cannot be compromised* Unquote.

Physician Scientist's Verbatim: *lap chole is preferred because it is minimally invasive, less scar painful, and recovers good. But Kocher is usually preferred when lap chole. Is not possible or GB has too many stones.....* Unquote.

Surgeon's Verbatim. *Well both options are equally applicable according to the disease; either it is cholecystitis or gall stones. Laparoscopic works well in cholecystitis and few small stones, but for the bigger stones, open surgery is ideal.* Unquote.

General Physician's Verbatim: *chole is good. however, one side effect of incidental cutting of cbd during chole is the biggest issue.* Unquote.

Laparoscopic cholecystectomy appears to be associated with a higher incidence of bile duct injuries than the traditional procedure of open cholecystectomy. Possible complications include variant anatomy plus failure to obtain a pre and peri operative cholangiogram (rarely possible investigation), improper dissection, imprudent or blind use of cautery or clip positioning and clamping, inherent limitations of the procedure.

Classified Surgeon's Verbatim. *The laparoscopic approach is advance but need high expertise, otherwise it leaves lot many surgical complications, I use to make a very small Kocher's incision that costs fewer stitches and compensates the patients' satisfaction to lap chole.....* Unquote.

Nurse's Verbatim. *In my operating room experience, I have seen that often person has anatomical variations in internal structures, so direct open visualization of viscera and operating is good option* Unquote.

2. Perception of pain and pain experiences

The pain after surgery was described by the participants as a "moderate to severe" pain and sleepiness (due to general anesthesia). Few patients were expecting (perceiving) less pain but experience more pain in laparoscopic surgery. They had to notify duty nurse to repeat or continue analgesia, where patient-controlled analgesia (PCA) was not connected. The experiences of the patients with gall bladder surgery in this study harmonized with other research findings and results: For example, another study identified incongruence between patient expectations of postoperative pain and the patient's actual experience (Ene, Norberg, Bergh, Johansson, & Sjöström, 2008).

Patient's Verbatim. *I thought that laparoscopic small will not cause pain but I felt pain in entire abdomen and in later days a hole was always aching alternatively from four holes, I wish I could have opted for one big scar.....* Unquote.

Participant reported pain that is consistent with findings from other studies of various authors about more pain in laparoscopic cholecystectomy in comparison to open cholecystectomy. (Ferrell, Rhiner, Cohen, & Grant, 1991), participants in this study used an extensive variety of adjectives to describe their post-operative pain, such as: gas induced pain "crampy, excruciating, sharp, and umbilical tie".

Surgeon's Verbatim. *Acute surgical pain is well managed in hospital setting, but pain due to primary or secondary post-operative complications cannot be managed at home, and patient wishes to go home as early as possible* Unquote.

Sometimes the pain became unrelenting to cholecystectomy procedure, as demonstrated by the participants' postoperative feelings, which they expressed significant post-operative discomfort from "gas," which causes sever crampy pain. This type of postoperative pain was not expected or perceived by the participants.

Patient's Verbatim. *I feel too much gas spreading and rounding into my abdomen which is causing pain all over the tummy, I was not aware of this fact.....* Unquote.

3. Certainty vs uncertainty

At first incapability to envisage when a pain episode would start led to the participants' feelings of uncertainty. Secondly feeling of physical functioning loss, lack of mobility and dependency in performing self and house chores were commonly found in the responses.

Patient's Verbatim. *I am fearful that what will happen to me in operation, how much I have to set in bed, when can I resume my previous work routine, someone told me that laparoscopic operation is less dangerous than open one.....* Unquote.

Participants in this study expressed feelings of uncertainty which are comparable to the of Gustavsson, and co-authors, who reported in their study about the participants' lack of preparation for

the unexpected abdominal holes, pains, and length of recovery after both types of gallbladder surgeries. (Gustavsson et al., 2011).

Patient's Verbatim. *My family and I were so uncertain about the procedure, outcome and after effects of both types of operation and blindly we decide for open cholecystectomy. There should be some information desk for telling the risks and benefits of operation and after care too.....* Unquote.

This finding is consistent with a phenomenological study examined the experience of patients after their cholecystectomy in an outdoor surgery setting. The study suggested that the patients were not well informed and adequately prepared for the pre and post-operative experience and suffered with unexpected outcomes (Costa, 2001). An earlier study found that nurses have a better understanding of the postoperative recovery period and management skills to make the patients pain free and stress free, but due to over worked environment they don't have time or formal hospital and discharge teaching. (Kleinbeck & Hoffart, 1994). The researchers identified a need for hospital and home education and post discharge support in the areas of pain management, nutrition, and prevention of chronic repeated pain (Barthelsson et al., 2003; Costa, 2001; Gustavsson et al., 2011).

4. Yearning for speedy recovery

The recovery period from the cholecystectomy surgery through laparoscope was slower than perceived by the participants, in comparison to open cholecystectomy. They were longing for quick pain reliever, speedy healing and a return to normal personal and social functioning. The participants' focus was on coping at home following getting early discharge from the hospital setting, while lying and recovering in the hospital.

Patient's Verbatim. *I chose laparoscopic surgery to remove my gall bladder, because I heard that it is small cut operation, but it was not.....Now I want to get rid of pain and want to go home, that I can eat well and homemade special diet and appropriate rest on my own bed and bedding* Unquote.

Acute cholecystitis interrupts one's family and work. Every aspect of an individual's life is impacted when pain from gallstones attack unexpectedly, and surgery follows. Work, leisure, and social activities are suddenly interrupted and cholecystitis demands the center stage of attention (Gustavsson et al., 2011). Another study author gave the results of focus group interviews focusing on factors the participants felt eager to return to their work after the cholecystectomy of any sort (Keus, de Vries, Gooszen, & van Laarhoven, 2010). Research studies are evident that post surgery pain, disability and dependency adversely influences the family relationships, ability to work at, home or job, diet, and social relations.

Recommendations

There were few unexpected findings which were not included in thematic analysis. These are anxiety, tiredness, groggy and generalized body aches, trauma or pulling of few muscles due to lifting and shifting after general anesthesia (anesthesia pains). Participants also reported pre and post surgery sleep disturbances, disrupted circadian rhythms (sleeping at day time and awake at night), difficulty in fall in sleep, difficulty staying asleep, and restlessness, loss of appetite and avoidance of food. These findings are suggestive for future researchers to build on their research studies to make comprehensive results. The post-operative complications and robotic surgeries are also need to address in detail for both types of the gall bladder surgeries. Replica study with Grounded Theory approach is also recommended for deeper understanding of phenomenon. Surgical team is suggestive to get more expertise in laparoscopic surgeries and traditional surgery can be mastered by making minimal Kocher's incision.

Conclusion

The aim of this phenomenological study was to gain a deeper understanding of the lived experience of post-operative (Laparoscopic Vs Open cholecystectomy) experiences until discharge from the hospital. This study provided an in depth understanding of participants who described their perception, experiences and expectation about the type of operation, pain, certainty and time length for a speedy recovery. The patients expressed need of prior information about types of gall bladder surgery and complication rate associated with each surgical procedure. Overall study concludes that

health care professionals are less in favor of laparoscopic cholecystectomy and cautioned related complication to it. They are aware of all the facts in comparison to the laymen or non-medical personnel. The most nonprofessional patients favored the laparoscopic cholecystectomy but shared many unexpected happenings happened to them. Four most reported themes are discussed in detail and some unexpected or out of question findings are set in recommendation for future researchers to study on these findings.

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