

# Effectiveness of Self-Care Program on Patients' Knowledge with Cholecystectomy

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## ABSTRACT

**Introduction:** The provision of self-care assistance for cholecystectomy patients results in the management of illness conditions to maximize well-being or in the ways selected by an individual to improve living circumstances. campaigns for cholecystectomy education and quality improvement promotion. To encourage self-care, decrease hospital readmissions, and increase patient satisfaction, all associated medical centers use quality control measures and support interventions.

**Objective:** To evaluate the effect of self-care education on knowledge of patients with cholecystectomy.

**Materials and Methods:** A quantitative quasi-experimental research design study was conducted to fulfill the early mentioned objectives using a pre-posttest technique for two groups of samples (study and control) from November 12, 2022 to March 15, 2023. The study included a non-probability (purposive) sample of (60) patients and was conducted in surgical wards at AL-diawaniya hospitals and the Gastrointestinal of Centre. SPSS software version 21 was used to analyze the data, which was significant at  $p < 0.05$ .

**Result:** study's findings revealed that the effectiveness self-care program on patients' knowledge with cholecystectomy was high significantly. Also shown findings was highly significant difference in the study group about their knowledge about cholecystectomy during pre and post-test with  $P$  value = .000, which reflected good improvement in their knowledge. While, no significant difference was presented among responses of the control group during the pre and posttest at  $P = .078$ .

**Conclusion:** this study found that an educational program is an effective to improve patients' knowledge about self-care after cholecystectomy, which can lead to better outcomes, decreased complications, and improved patient satisfaction and quality of life. It is recommended that healthcare providers consider implementing such these programs to improve the quality of care provided to patients.

**Keywords:** Effectiveness, self-care, program, patients' knowledge, cholecystectomy.

## INTRODUCTION

Cholecystectomy is routinely used to treat gallstones or gallbladder disorders. A laparoscopic cholecystectomy is a minimally invasive operation to remove the gallbladder<sup>1</sup>. Laparoscopic cholecystectomy is now used to treat cholecystitis (acute/chronic), symptomatic choledocholithiasis, biliary dyskinesia, biliary pancreatitis, and gallbladder masses/polyps<sup>2</sup>. Laparoscopic cholecystectomy (LC March 1987). Because of the National Institutes of Health Consensus Conference in 1993, laparoscopic cholecystectomy has superseded open cholecystectomy as the "gold standard" in the treatment of symptomatic gallbladder disease<sup>3</sup>. Over 80% of cholecystectomies are now performed laparoscopically. Carl Langenbuch conducted the first cholecystectomy on a 42-year-old man in Berlin on July 15, 1882. In the case of symptomatic cholelithiasis, Philippe Moret conducted the first laparoscopic cholecystectomy in Lyon, France<sup>4</sup>. This is the first study in Iraq to look at risk factors for complicated laparoscopic cholecystectomy. Preoperative ultrasonography, according to other research, can assist anticipate the complexity of LC surgery<sup>5</sup>.

Digestive illnesses are the third most common sickness in the United States, with a huge economic impact. The direct medical care cost of gallbladder disease causing digestive illness has been estimated to be more than a billion dollars. It affects 10% of the population, with women and the elderly being particularly vulnerable. In 1984, 776,000 people were diagnosed with gallstones, and 485,000 of them had cholecystectomy<sup>6</sup>. The gold standard of gallbladder surgery is now laparoscopic cholecystectomy. Due to a variety of circumstances, open cholecystectomy is still extensively used in Iraq. Because of their distinct characteristics in the early post-operative period, the circumstance described above offers us with an excellent chance to investigate the early post-operative course and complications of both types of procedures. Despite the fact that learning curves for surgeons doing L.C are improving, difficulties should be expected and addressed as soon as possible. In terms of morbidity, cosmetics, and complications, L.C is recommended to O.C<sup>7</sup>. Early complications were recorded in 1.5-2.92% of western nations and 1.5-6.5% of eastern countries. We have been using LC at our teaching facility for the past

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ten years, and this study will assess the unique difficulties associated with this method. LC consequences include hemorrhage, gall bladder perforation, bile leakage, stone spillage, bile duct damage, perihepatic collection, external biliary fistula, wound problems, foreign body inclusions, and adhesions<sup>8</sup>. Many complications result during LC, some of which are unique to this procedure and some common to laparoscopic surgery in general. These include complications related to anesthesia, peritoneal access, etc. A vascular injury, visceral injury; complications related to pneumopreitonium, such as cardiac complications, pulmonary complications, and gas embolisms; and complications related to thrombo-coagulation. There are several specific complications of LC, including hemorrhage, bile leakage, bile duct injury, prehepatic collection, and others, including external biliary fistula, wound sepsis, hematoma, and foreign bodies. Laparoscopic cholecystectomy was converted to open cholecystectomy because of procedure difficulties, patient factors, and unexpected adverse events<sup>9</sup>. Preoperative education is critical for optimizing the postoperative phase and avoiding problems after cholecystectomy. Postoperative care also includes postoperative pain management, nutrition, exercise, and follow-up. Care is being assessed. Postoperative care is critical for preventing postoperative complications that result in postoperative mortality and longer hospital stays. A prolonged hospital stays as well as a reduction in cognitive and functional ability. It has a significant influence on hospital expenses<sup>10</sup>. Patient self-management encourages patients to participate in their own healthcare<sup>11</sup>. The concept of self-care is defined as adhering to treatment, following recommendations, managing symptoms, gaining control over weight, and adopting healthy lifestyles<sup>12</sup> self-care education aimed at promoting these behaviors. Self-efficacy beliefs influence human motivation and behavior, as well as the actions that can affect one's life<sup>13</sup>. A person's self-efficacy refers to their belief in their ability to organize and execute appropriate responses to situations they may face in the future. In addition to how you feel about yourself, self-efficacy can play a role in achieving your goals in life and developing your character<sup>14</sup>.

**METHODOLOGY**

A quantitative quasi-experimental research design study was carried out in order to achieve the early stated objectives. The study was initiated from November 12 th, 2022 through march, 15 th, 2023. The research was conducted in surgical wards of AL- diwaniya hospitals and the Gastrointestinal Centre. In this study, a non-probability purposive sample of individuals was chosen. At preoperative at AL-diwanaya, each patient was questioned (face to face). The research had (60) patients as participants. Group A consisted of (30) patients who got standard hospital treatment, whereas the control group was not exposed to such an education program. Group (Study group): A comprised of (30) patients who got hospital treatment as well as an instructional program on self-care after cholecystectomy. The research instrument was made up of (two) pieces, which were connected to the following: Part (I): Sociodemographic factors include: It was created by the researcher and consisted of (ten) multiple choice questions on age, gender, marital status, weight, monthly income, educational level, domicile, employment, family history of gallbladder removal, and family history of gallbladder problem removal. Part (two): scale for patients' knowledge about self-care post cholecystectomy. The construction of the study questionnaire was achieved through the review of literature and related studies, experts and scientific references, to patients' knowledge about self-care post cholecystectomy *for* studied subjects, as follows: which were composed of multiple-choice questionnaire for patients' knowledge about self-care post cholecystectomy sheet comprised of; 24 items. The items have been rated and scored according to the following patterns: multiple choice questionnaire is scored as 0 for incorrect answer and 1 for correct for 24 items. Effectiveness of

the educational program on patients' knowledge about self-care post cholecystectomy *outcomes* was evaluated by the researcher using questionnaire after 2 weeks from the date of the lecture to every participant. education program implementation (follow-up) in surgical consultants at hospital department and doctor clinic. Post- test carried out a period (from 10th January, 2023 to 15th March, 2023). The SPSS program version 24.0 was used to analyze the data. Descriptive data analysis includes frequency, percentage, mean of score (M.S), and standard deviation (S.D) values. T-tests and ANOVA are examples of inferential data analysis.

**RESULTS**

**Table 1:** The distribution of the study samples (study and control) according to the demographical data

Variable	Groups	Study group		Control group	
		F.	%	F.	%
Age Groups	20-29	2	6.7	2	6.7
	30 – 39	6	20	4	13.3
	40 – 49	14	46.6	11	36.7
	50 – 59	6	20	8	26.7
	60 - 69	2	6.7	5	16.6
	Total	30	100	30	100
Gender	Male	13	43.3	12	40
	Female	17	56.7	18	60
	Total	30	100	30	100
Marital Status	Single	1	3.3	1	3.3
	Married	26	86.7	25	83.4
	Widowed	3	10	4	13.3
	Total	30	100	30	100
Occupation	Employee	11	36.7	10	33.3
	Housewife	13	43.3	7	23.7
	Student	2	6.7	1	3.3
	Free work	3	19	8	26.7
	Retired	1	3.3	4	13.3
	Total	30	100	30	100
Educational level	Read and write	2	6.7	0	0
	Primary school graduate	2	6.7	2	6.7
	Intermediate school graduate	6	20	3	10
	Secondary school graduate	6	20	8	26.7
	Diploma	3	10	9	29.9
	College and higher	11	36.6	8	26.7
Residence	Total	30	100	30	100
	Urban	22	73.3	21	70
	Rural	8	26.7	9	30
Family history with cholecystectomy	Total	30	100	30	100
	Yes	20	66.7	20	66.7
	No	10	33.3	10	33.3
Family history with complication of cholecystectomy	Total	30	100	30	100
	Yes	6	20	12	40
	No	24	80	18	60

F.= frequency, % = percentage

Table (4.1) showed that most of the study group (46.6) percent and the control group (36.7) percent were within age group 40 – 49 years old.

In relation to gender, 56.7 percent of the study group and 60 percent of the control group were females. Moreover, 86.7 of the study group and 83.4 of the control group were married. Related to occupation, the highest percent of the study group 43.3 percent were housewives, and the highest percent of the control group 33.3 were employee. In addition, corresponding to the education level, the highest percent of the study group 36.6 percent have college and higher qualification, while the highest percent within the control group 29.9 have diploma qualification. In relation to residence, the majority of the study sample 73.3 percent and also the majority of the control group 70 percent were live in urban area. The same percent of both the study and control groups (66.7) have family history with cholecystectomy. While, 80 percent of the study group and 60 percent of the control group do not have family history of complications post cholecystectomy.

**Table 2:** Comparative Significant of pre and posttest knowledge scores for the study and control groups

Score	N	M	SD	t	df	P.value	Sig.
Pretest and Post-test knowledge (Study Group)	30	.41 .98	.06 .02	38.67	29	.000	H.S
Pretest and Post-test knowledge (Control Group)	30	.48 .5	.07 .079	1.82	29	.078	N.S

N= number, M = mean of score, SD= standard deviation, NS =non-significant at  $P>0.05$ , S= significant at  $P<0.05$

Table (2) presented that there was a highly significant difference in the mean of the study group about their knowledge about cholecystectomy during pre and post-test with P value = .000, which reflected good improvement in their knowledge. While, no significant difference was presented among responses of the control group during the pre and posttest at  $P = .078$ .

## DISCUSSION

Discussion of the Socio-Demographic Characteristics of the Study Sample, Results in table (1) showed that most of the study group (46.6) percent and the control group (36.7) percent were within age group 40 – 49 years old. In relation to gender, 56.7 percent of the study group and 60 percent of the control group were females. Moreover, 86.7 of the study group and 83.4 of the control group were married. Related to occupation, the highest percent of the study group 43.3 percent were housewives, and the highest percent of the control group 33.3 were employee. In addition, corresponding to the education level, the highest percent of the study group 36.6 percent have college and higher qualification, while the highest percent within the control group 29.9 have diploma qualification. In terms of residence, most of the study sample (73.3%) and most of the control group (70%), respectively, live in metropolitan areas. Both the research and control groups (66.7%) had a family history of cholecystectomy. While 80 percent of the study group and 60 percent of the control group had no family history of cholecystectomy problems. In contrast, study found that who discovered that cholelithiasis became more common with age, implying that aging is a substantial risk factor for cholelithiasis. This was linked to the fact that as people aged, the incidence of metabolic syndrome, which is strongly associated to gallstones, rose<sup>15</sup>. the female gender is a risk factor for cholecystectomy, and studies show that those over 40 years of age are the most likely to undergo it<sup>16</sup>. In contrast, study found that those females are more prone than males to acquire

cholelithiasis<sup>17</sup>. In contrast, study found that who discovered that most of their analyzed patients were females, with a greater incidence of gallstones induced by menopause, as a risk factor for gallstones in women over 50. According to them, estrogen levels enhance the saturation of cholesterol in bile, resulting in the production of gallstones<sup>18</sup>. Regarding the marital status of the patients investigated, it was noticed that the majority were married at the time of the research. Because of their marital status, multiparous women are more likely to develop gallstones<sup>19</sup>. According to the study, most study participants were married, which corresponds to patients' marital status. There is a link between marital status and gallstones because multiparous women are more likely to have gallstones than single women. in contrast, study found that research, marriages at a younger age were positively related with gallstone disease in females. Early marriages may lead to prolonged reproductive periods and greater parity rates. As a result, female sex hormones associated with conception play a unique role in gallstone formation<sup>20</sup>. In this study, most of the patients were with: a college education (36.6%), which agrees with the findings of another study conducted to Also, most of the patients were with: college education 73.8%<sup>24</sup>. This study agreed with those of Ahmed, most of the patients were accompanied by a housewife (43.3%) and an employee (36.6%)<sup>21</sup>. According to the study sample, 73.3% of the participants live in an urban area; on the other hand, 70 percent of those in the control group live in an urban area. These findings agree with the study found that most residents (53.3%) live in urban areas, while the lowest percentage (46.7%) lives in rural areas<sup>22</sup>. In relation to income, the majority of the patients in the study had an insufficient amount of income to meet their daily requirements in order to survive. These findings agree with This study was the first to report an association between cholelithiasis and poor economic status<sup>23</sup>. A study conducted on family history of cholecystectomy revealed that most of the patients studied (66.7%) have a family history of cholecystectomy. in contrast, study found that 45.5% of the participants had a positive family history of cholecystectomy. In relation to family history, In the study, the majority of the patients did have a family history of complications post cholecystectomy, with 80% of the study group having those complications and 60 % of the control group having them<sup>24</sup>. According to the findings in table (4.2), there was a substantial change in the study group's mean replies for all items pertaining to their knowledge of cholecystectomy from fail score to pass score, which indicated that their knowledge had improved as a result of the educational program. According to the current study, the majority of the analyzed patients had inadequate knowledge regarding self-care adhering to cholecystectomy in terms of nutrition, activity, medications, drainage, wound care, surgery of complications, type of surgery and type of anesthesia, breathing exercises, and the importance of preoperative preparation. same opinion as Lilian, who advised that any patient who is undergoing a surgical procedure in general and should be fully educated on the benefits and risks of surgery, as well as routine pre- and post-operative information<sup>25</sup>. According to the results this study, the majority of participants who were subjected to the study gave incorrect answers before the educational program was implemented. However, following the implementation of the post-education program, nurses had a higher level of knowledge as a result. As a result, the patient's knowledge of all items concerning preoperative care was poor<sup>26</sup>. According to the study on the effectiveness of educational programs in enhancing patients' knowledge before and after surgery, there was a significant difference between the pre-test and post-test scores of the study group. Accounting for a p-value of 0.001, the average was accepted as appropriate. It appears that patient's knowledge has improved as a result of the education program implemented<sup>27</sup>. Study participants lacked a clear understanding of the disease's nature, preoperative care, postoperative care, complications, and self-care. A statistically

significant positive correlation was found between patients' knowledge level and nurses' knowledge as a source of knowledge as well<sup>28</sup>. In this study, individuals who received a self-care program and showed improvement in their knowledge about self-care after cholecystectomy and Individuals gain positive self-care behaviors after the educational program. There was an increase in self-care efficiency in the study group, which was higher than that of the control group. Patient care knowledge has increased dramatically as a result of the educational program. According to the results, patients in the study group with higher levels of knowledge about self-care.

**Limitation:** One of the limitations of this research is the study sample was not controlled It may have affected your search results. should other researchers consider it. Last the limitation is that the current search is done in a certain period. Therefore, it is recommended A study of different groups of cholecystectomy patients and taking as many participants as possible, is a way to follow up to gain a better understanding of it for self-care after cholecystectomy.

## CONCLUSIONS

**Educational program is an effective way to improve patients' knowledge about self-care after cholecystectomy, which can lead to better outcomes, decreased complications, and improved patient satisfaction and quality of life. It is recommended that healthcare providers consider implementing such these programs to improve the quality of care provided to patients.**

**Recommendations and Implications:** A self-care program is recommended for cholecystectomy patients in hospital to improve their quality of life and reduce postoperative complications.

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**Competing Interest:** None

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