Efficacy of Implementing Discharge Plan on Women Undergoing Hysterectomy

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Abstract

Context: Hysterectomy is the most common gynecologic surgical procedure among reproductive aged women in which complications with serious consequences may occur, thereby discharge planning for women undergoing hysterectomy is considered a strategy for promoting their health and wellbeing. **Aim:** The aim of this study was to assess the efficacy of implementing a discharge plan on women undergoing Hysterectomy. **Methods:** A Quasi-experimental (study/control group) design was utilized in this study. A purposive sample of 60 women recruited in this study that conducted at the Gynecological unit at Ain shames university maternity hospital. The study utilizes Four tools, I) Structured Interviewing Questionnaire, II) Structured self-care ability questionnaire III) Visual Analogue Scale (VAS), IIIV) in addition to follow up record and developed supportive material (discharge plan). **Results:** The present study revealed statistically significant differences between the study and control group regarding their total practice scores, mean pain score as well as health problems after hysterectomy pre, post, and follow up of intervention (P ≤ 0.001). **Conclusions:** The present study concluded that the implementation of a discharge plan has improved women's self-care practices post-hysterectomy in addition to a reduction in health problems and pain scores among studied women. The study **Recommended:** an updated discharge plan regarding self-care should be included in routine care for women undergoing hysterectomy. Also, further research is still needed to investigate the association between discharge plan and developing complications.

Keywords: Efficacy, Discharge plan & Hysterectomy.

Introduction:

Hysterectomy is the most commonly occurring surgical treatment performed for women. According to the most recent surveillance data from **(Center for Disease Control and Prevention, 2020),** hysterectomy is the second most frequently performed surgical procedure for women of reproductive age, topped only by cesarean delivery. Hysterectomy is the surgical removal of the uterus. It may also involve removal of the cervix, ovaries, fallopian tubes, and other surrounding structures, The indications of hysterectomy are uterine fibroid, uterine dysfunctional bleeding, endometriosis, cancer of uterus, ovary, cervix, chronic pelvic pain, obstetrical hemorrhage, uterine prolapsed, leiomyoma. **(Shrivastava & Chaudhry., 2015).**

Hysterectomy operation is one of the surgical treatments in gynecology. It is performed to save life of women who may have a chance of critical disease, associated with uterus. Often hysterectomy is an end of the road decision for women who may be suffering from months of heavy prolonged bleeding **(Guo et al., 2019).**

Women who undergo hysterectomy face a multitude of physical, psychological, emotional, social, and sexual problems both before and after the surgery, such as backache, vaginal discharge, weakness, pain, weight gain, incontinence, and difficulty in sitting/walking., After the uterus was removed, a sensation of incompleteness was also observed. Proper designing and application of discharge planning not only affect women's health but also causes a reduction in readmissions **(Desai., et al., 2016).**

Women after hysterectomy are at risk for developing many health problems The major factors contributing to these problems are lack of proper information, lack of support and counseling, and fears and apprehensions born out of wrong information. So, it is important to appoint qualified nurses to interact with hysterectomy women and their families. The aim of such interaction should ensure that the woman copes better with the hysterectomy and post-hysterectomy scenario by lessening the problems faced by the hysterectomy women. (**Kendall & Fairman., 2014**).

Discharge planning is the development of a personalized plan for each patient who is leaving hospital, with the aim of containing costs and improving patient outcomes. Discharge planning should ensure that patients leave hospital at an appropriate time in their care and that, with adequate notice, the provision of post-discharge services will be organized. Discharge planning is a routine feature of health systems in many countries Proper designing and application of discharge planning affect women's health and minimize many health problems facing women through proper education and information related to coping strategies.

The aim of discharge planning is to reduce hospital length of stay and unplanned readmission to hospital and to improve the coordination of services following discharge from hospital (**Gonçalves.et al., 2016**)

Nurses act as patients' caregivers in the acute care setting and play a pivotal role in fulfilling patients' education needs at discharge taking into consideration the biological, psychological, and social dimensions of the recovering patients. Although other health professionals are involved in the delivery of patient education, nurses are central in the preparation of patients for self-management of postoperative symptoms at home (**Guo. et al., 2019**).

Hysterectomy surgery needs preparation that starts at admission and continues throughout the patient's hospital stay the nurses involved in discharge planning regarding postoperative self-care and provide verbal and printed information about a broad spectrum of topics including pain management, rest, and activity; medications, nutrition, hydration, and elimination, physician contact after discharge, wound care, signs of infection, and action in the event of an urgent problem (**Seok. et al., 2021**).

Significance of the study:

Worldwide, Hysterectomy is the second most common operative procedure performed following cesarean section, affects 1 in 9 females during her lifetime, and is the most frequently performed non-obstetric procedure in women. Caring for women who undergo hysterectomies are neglected in most hospitals although complications following a hysterectomy may expose women to morbidity and mortality (**Desai., 2016**).

In Egypt, the annual incidence rate for hysterectomy is estimated to be 165,107 annually all over governorates, divided between the upper and lower Egypt (**Health grade., 2016**), which represents a considerable number of women suffering from the proposed problem in the Egyptian community.

Women who undergo hysterectomy face physical, psychological, emotional, and social problems in their post-hysterectomy life. In fact, careless of these women expose them to serious complications such as bleeding, infection, urinary tract fistula which threaten their life. A review of the literature indicates that hospitals often discharge patients with insufficient planning, poor instruction, inadequate information, lack of coordination among members of the health care team, and poor communication between the hospital and community. So, Teaching women about these problems and its management should be a matter of concern, this may consequently improve patients' post-discharge outcomes and reduce avoidable readmissions (**Thomas., 2018**). so, the current study will be done to assess the Efficacy of implementing discharge plan for Women undergoing Hysterectomy.

Aim of the study:
The aim of this study was to assess the efficacy of implementing discharge plan for women undergoing hysterectomy though:

- Assess women's post-operative self-care practices after hysterectomy.
- Assess the presence of post-operative health problems among women undergoing hysterectomy.
- Determine the degree of post-operative pain among women undergoing hysterectomy.
- Designing and implementing discharge plan for women undergoing hysterectomy
- Evaluating the efficacy of discharge plan on women undergoing hysterectomy.

Research hypotheses
Women who receive discharge plan will exhibit better post-operative self-care practice, experience less postoperative health problems, and have less pain degree than those who do not receive it.

Subjects and Methods:

Research design:
A Quasi-experimental (study/control group) design was utilized in this study.

Setting:
This study was conducted at Gynecological unit at Ain shames university maternity hospital.

Subjects:
Sample type: A purposive sample with the following:

Inclusion criteria:
- Women undergoing both abdominal and vaginal Hysterectomy.
- Women With benign surgical indications as dysfunctional uterine bleeding, uterine fibroids, repair prolapsed uterus or any others pelvic organ.
- Women who can at least read and write.

Exclusion Criteria:
- Women who had a major operation within the last 3 years.
- Women with chronic health problems such as diabetes or cardiovascular disease.
- Women with a history of psychiatric disorders.

Sample size: Sixty women were included in this study
- **Sample size Equation:** The researchers depended on the following equation to calculate the sample size: Steven Thompson Equation (**Khuanbai., 2019**).

$$n = \frac{Z1 - \alpha/2^2 P\,(1 - P)}{d^2}$$

- N =Sample size
- Z: Statistics for a level of confidence. (For the level of confidence of 95%, which is conventional, Z value is 1.96).
- P = the expected proportion in population based on previous studies.

d=error percentage = (0.05).

Sampling technique:

The sample divided into two equal groups; each group composed of 30 women:

A. **Study group:** they have received discharge plan in addition to the routine hospital care at the pre-mentioned setting.

B. **Control group:** this group received the routine of hospital care only. The control group was chosen first to ensure no contamination or bias in the sample of the study group.

Tools of the study

Data was collected using the following tools:

I. **A Structured Interviewing Questionnaire:** The researcher designed it after reviewing recent literature **(Lynch & LeFort., 2016) (Elgi & Viswanath., 2017)** to collect the necessary data related to the study aim. The interviewing questionnaire was used in Arabic language. It consisted of 12 questions: covering two parts as the following,

The first part; it included the general characteristics of the study sample such as age, residence, marital status, level of education, and occupation (5 questions).

The second part: It was designed to assess the present surgical history of the studied sample as type of surgery, causes of hysterectomy, and postoperative health problems (7questions).

II. **Structured self-care ability questionnaire:** It was adapted from **(Kshetrimayum et al., 2015)** and modified by the researcher to assess women post-operative self-care practices after hysterectomy. It consisted of 44 items divided into six categories including; Physical activities, wound care, pain management, personal cleanliness, food, and sexual activity.

Scoring System:

The items were rated on a three-point scale: "always-3," "sometimes-2," and "never-1," with a minimum of 44 points and a maximum of 132 points. Then the total practice scores were classified as the following: unsatisfactory Practice (>60%), and satisfactory practice (≤ 60%).

III. **Visual Analogue Scale (VAS):** it was adopted from **(Myles., et al ,2017)** to assess the degree of post-operative pain for women undergoing hysterectomy.

It consisted of a 10-cm line anchored at each end with words such as "no pain" was scored as 0, (mild pain) was scored from 1-3, (moderate pain) was scored from 4-7, and (severe / worst pain) was scored 8-10.

IV. **Follow up record:** It was designed by the researcher to assess different discomforts & health problems experienced by women following hysterectomy among both groups (control & study). This record was distributed to every woman among both groups for registering any abnormalities.

Supportive Material (Discharge plan):

It was designed by the researchers based on the recent literature review (**Seok et al., 2021**) to enhance women's knowledge and practices regarding post operative care after hysterectomy. It was designed in the form of a handout (booklet) using simple Arabic language and different illustrative pictures to facilitate understanding its content. The discharge plan covered the following topics: hysterectomy "definition, indications, types, complications, post operative self-care as positioning, mobility, wound care, pain management strategies, diet, hygienic measures, sexual activity, daily living activities, exercise, follow up visits, medications compliance, warning signs, post-operative health problems and proper self-care measures that could apply to overcome those problems.

Tools validity and reliability:

Research process was evaluated for feasibility and the tools' content validity were assessed by five experts from the Maternity-Gynecological Nursing Department, and the Public Health Department, Faculty of Nursing, and Obstetrics and Gynecology Department, Faculty of Medicine, Ain Shams University. Modifications were done according to the comments "rephrasing and cancelling for four questions".

Reliability was measured using Cronbach's' Alpha coefficient that found to be 0.84 for a structured interviewing questionnaire, 0.87 for structured self-care ability questionnaire, and 0.92 for the Visual Analogue Scale.

Pilot Study:

It was carried out in three weeks on 10 % of the sample (6 women). The pilot study conducted to assess the validity, clarity, comprehensiveness of the tools and to test the feasibility of the study process. The necessary modifications were done based on the pilot study findings such as (omission of some questions from the tool) to improve its contents or for more simplicity and clarity. These groups were excluded from the study sample.

Administrative design:

An official written approval letter clarifying the title, purpose, and setting of the study was obtained from

the Dean of Faculty of Nursing of Ain Shams University & director of Ain Shams Maternity University Hospital.

Ethical considerations:

Ethical approval was obtained from the Scientific Research Ethical committee of Faculty of Nursing at Ain Shams University before starting the study. Informed consent obtained from participants after explaining the purposes of the study. No harmful methodology used with participants. Each participant had the right to withdraw from the study at any time. Human rights were granted. Data was confidential, and a coding system for data was used.

Field Work:

The study was carried out through three phases: assessment, implementation, and evaluation phase. These phases were carried out from the beginning of July 2020 to December 2020, covering six months. The researchers visited the previously mentioned setting three days per week from 9.00 am to 2.00 pm until the sample size was completed. The researchers took into consideration safety precautions against COVID19 infection followed by WHO guidelines **(World Health Organization, 2020)** as it was pandemic during the data collection period; for example, wearing masks, keeping a one-meter distance, hand washing and using the antiseptic solution (alcohol 70%), also the researchers followed the rules and regulation of the hospital safety measure.

Assessment phase:

- The researcher introduced herself to the women and explained all information about the study purpose, duration, and activities prior to data collection to gain their trust and confidence to participate in the study. Then oral consent of women was obtained.

-The researcher started to fill interviewing questionnaire to assess women's personal data, and present surgical history, and utilize the structured self-care ability questionnaire to assess their self-care practices and assess post-operative pain level by using visual analog scale (VAS) for both groups (control & study) in a time ranged from 15- 20 minutes. The data obtained during this phase constituted the baseline for further comparisons to assess the effect of the intervention.

- Follow up record was distributed and explained by the researcher among both groups (control & study groups) to record any post operative health problems.

Implementation phase:

- The discharge plan was implemented and distributed by the researcher for each woman in study group individually through Three 30-45 minutes sessions. The sessions were conducted post operatively during their staying period in hospital and till the woman discharged from the hospital.

- **The first session:** the researchers started the first session with an orientation about the discharge plan objectives, benefits, contents, and its impact on the women's condition. Then started to provide information about hysterectomy "definition, types, indication, complications", after that the researcher provided teaching on self-care regarding pain management, wound care, breathing exercise, pelvic floor exercise, and abdominal exercise.

- **Second session:** The researcher focused on self-care practices regarding mobility, daily living activities, rest, sleep, physical activities, and hygienic measures.

- **Third session:** It included teaching on self-care regarding, sexual activity, follow up visits, medications compliance, warning signs, most common post-operative health problems and proper self-care measures that could apply to overcome it.

- Each of session was started by a summary about what has been discussed in the previous session and the objectives of the new session, using simple Arabic language, also, the session ended by a summary of its contents and feedback from the patients was obtained to ensure that the patients got the maximum benefits.

- Various teaching methods were utilized in the current study as lecture, discussion, demonstration, and re-demonstration. Suitable teaching aids were used, including PowerPoint presentations, video films, and brochures.

- The researcher also communicated with women's via telephone cell for instruction and reinforcement after discharge from the hospital.

- Control group: women in the control group received the routine hospital care only.

Evaluation phase:

The effect of discharge plan on women's condition was done through comparing between the control and study group regarding their self-care practices, post-operative health problems and degree of pain after one week and one month post intervention, this will be done at outpatient clinic or by phone by using the same pre intervention tools.

Statistical Design: The collected data were organized, categorized, tabulated, and statistically analyzed using the Statistical Package for Social Science (SPSS 20.0). Descriptive statistics were used to calculate percentages and frequencies for qualitative variables, mean and standard deviations for quantitative variables. The statistical tests such as chi-square test $(X2)$ were used to estimate the statistically significant differences. For normally distributed data, a comparison between two independent populations was made using independent

(t) test. Reliability was measured using Cronbach's' Alpha coefficient test. A significant level value was considered when p < 0.05, a highly significant level value was considered when p < 0.01, and not statistically significant difference when p>0.5.

Limitations of the study:
 - The data collection time and implementation of the discharge plan were at the pandemic of COVID19, so it required many restrictions and precautions related to hospital rules and regulation and the need for more time to fulfill the required sample size due to decreased women flow rate.

Results

Table (1): Comparison between study and con rol groups regarding their personal characterstics:t

Personal characteristics		Groups				Chi square	P-value
		Study (n=30)		Control (n=30)			
		No.	%	No.	%		
Age	20-<30	3	10	2	6,7	3.137	0.371
	30-<40	7	23.3	8	26.7		
	40-<50	17	56.7	16	53.3		
	50->60	3	10	4	13.3		
Educational level	Read and write	5	16.7	7	23.3	1.887	0.596
	Primary education	14	46.7	9	30.0		
	Secondary education	7	23.3	8	26.7		
	University education	4	13.3	6	20.0		
Marital status	Married	22	73.3	27	90.0	3.510	0.173
	Widowed	6	20.0	3	10.0		
	Divorced	2	6.7	0	0.0		
Residence	Rural	23	76.7	17	56.7	2.700	0.100
	Urban	7	23.3	13	43.3		
Occupation	Housewife	18	60.0%	19	63.3%	7.211	0.056
	work	12	40.0%	11	36.7%		

Table (2): Comparison between study group and control group regarding Present Surgical history:

Present Surgical history		Groups				Chi square	P-value
		Study (n=30)		Control (n=30)			
		No.	%	No.	%		
Type of operation	Abdominal hysterectomy	24	80.0	22	73.3	6.456	0.077
	Vaginal hysterectomy	6	20.0	8	26.7		
Causes of Hysterectomy	Abnormal uterine bleeding	15	50.0	17	56.7	2.307	0.539
	Fibroid uterus	8	26.7	9	30.0		
	Prolapse	7	23.3	4	13.3		

Table (3): Comparison of women's post oprative self-care practice post hystrectomy at pre , post and follow of intervention among control group: (n =30)

Self-Care Practice	Control group n= (30)									
	Pre		Post		x^2 (1)	P-value (1)	Follow up		x^2 (2)	P-value (2)
	Satisfactory N (%)	Unsatisfactory N (%)	Satisfactory N (%)	Unsatisfactory N (%)			Satisfactory N (%)	Unsatisfactory N (%)		
Wound care	2 (6.7)	28 (93.3)	4 (13.3)	26 (86.7)	0.185	0.334	6 (20.0)	24 (80.0)	1.298	0.064
pain management	2 (6.7)	28 (93.3)	4 (13.3)	26 (86.7)	0.185	0.334	6 (20.0)	24 (80.0)	1.298	0.064
Diet habits	3 (10.0)	27 (90.0)	6 (20.0)	24 (80.0)	0.523	0.139	6 (20.0)	24 (80.0)	0.523	0.139
daily physical activities	5 (16.7)	25 (83.3)	7 (23.3)	23 (76.7)	0.104	0.259	5 (16.7)	25 (83.3)	0.14	0.128
hygienic measures	4 (13.3)	26 (86.7)	6 (20.0)	24 (80.0)	0.12	0.244	6 (20.0)	24 (80.0)	0.12	0.244
sexual activity	2 (6.7)	28 (93.3)	4 (13.3)	26 (86.7)	0.185	0.194	4 (13.3)	26 (86.7)	0.185	0.194

X2 (1) between pre & post   *P(1) between pre & post*
X2 (2) between pre & follow up   *P(2) between pre & follow up*

Table (4):Comparison between women's care practice regarding post hystrectomy at Pre , Post and Follow up intervention among Study Group: (n =30)

Self-Care Practice	Study group n= (30)									
	Pre		Post		x^2 (1)	P-value (1)	Follow up		x^2 (2)	P-value (2)
	Satisfactory N (%)	Unsatisfactory N (%)	Satisfactory N (%)	Unsatisfactory N (%)			Satisfactory N (%)	Unsatisfactory N (%)		
Wound care	3 (10.0)	27 (90.0)	22 (73.3)	8 (26.7)	22.2	0.001**	27 (90.0)	3 (10.0)	35.27	0.001**
pain management	5 (16.7)	25 (83.3)	23 (76.7)	7 (23.3)	19.4	0.001**	25 (83.3)	5 (16.7)	24.07	0.001**
Diet	4 (13.3)	26 (86.7)	27 (90.0)	3 (10.0)	32.3	0.001**	28 (93.3)	2 (6.7)	35.42	0.001**
daily physical activities	6 (20.0)	24 (80.0)	26 (86.7)	4 (13.3)	24.2	0.001**	26 (86.7)	4 (13.3)	24.17	0.001**
hygienic measures	7 (23.3)	23 (76.7)	25 (83.3)	5 (16.7)	19.4	0.001**	28 (93.3)	2 (6.7)	27.43	0.001**
sexual activity	3 (10.0)	27 (90.0)	25 (83.3)	5 (16.7)	29.5	0.001**	26 (86.7)	4 (13.3)	32.3	0.001**

X2 (1) between pre & post   *P(1) between pre & post*
X2 (2) between pre & follow up   *P(2) between pre & follow up*
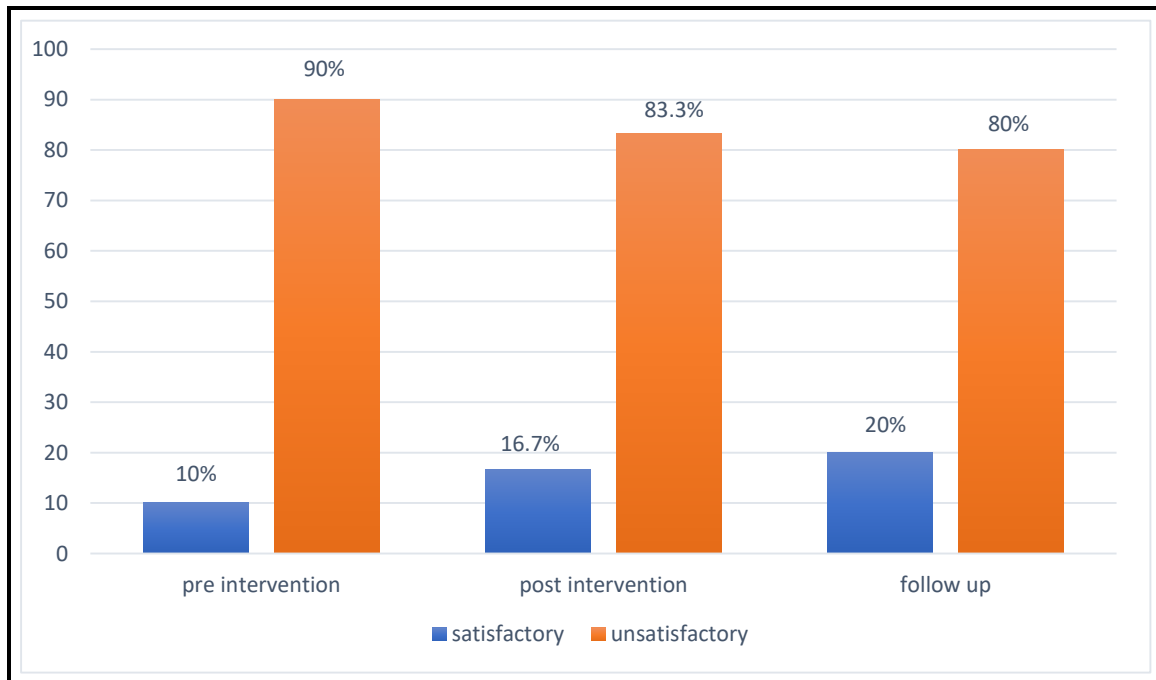*(**) highly statistical significant difference*

Figure (1): Comparison between total score of Self-Care Practice post hystrectomy at Pre, Post, and Follow up of intervention among control group: n=30
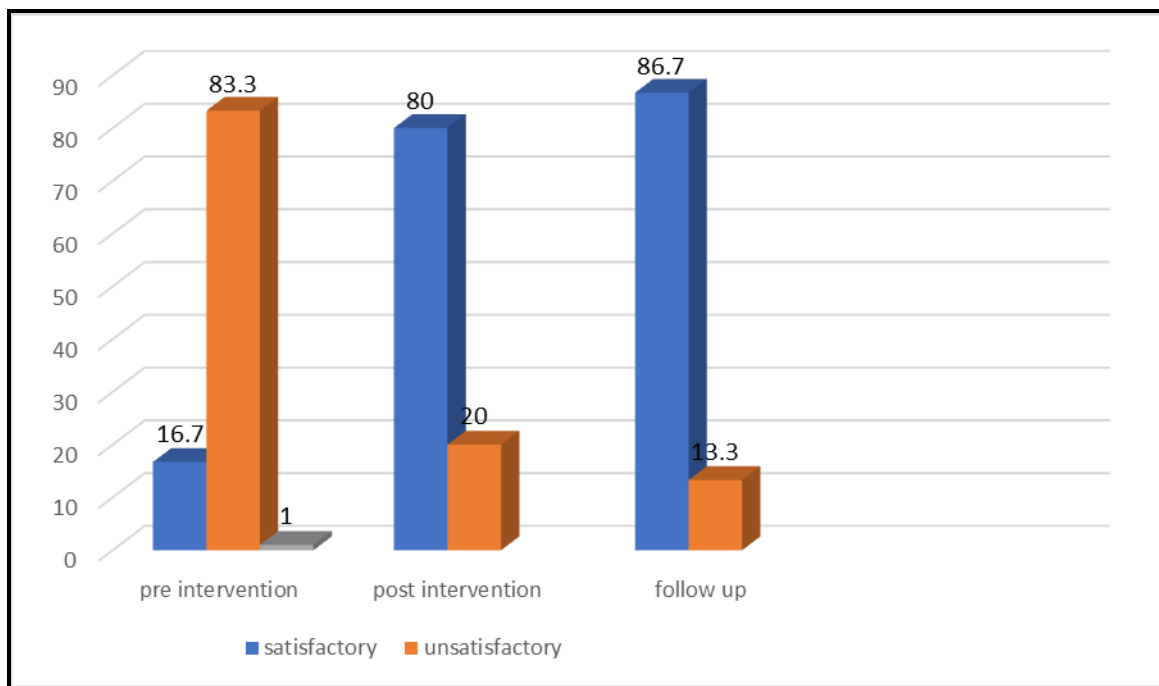

Figure (2): Comparison between total score of Self-Care Practice post hystrectomy at Pre, Post, and follow up of intervntion among study group: n=30

Table (5): Comparison between Control group and study group regarding their total Score of Self-Care Practices post Hystrectomy at Pre, Post, and Follow up of intrvention : n=(30)

Item	Control (n = 30)		Study (n = 30)		X2	P value
	No	%	No	%		
Pre intrvention						
Satisfactory	3	10.0	5	16.7	0.144	0.223
Un satisfactory	27	90.0	25	83.3		
Post intrvention						
Satisfactory	5	16.7	24	80.0	21.62	0.001**
Un Satisfactory	25	83.3	6	20.0		
Follow up of intervention						
Satisfactory	6	20.0	26	86.7	24.17	0.001**
Un Satisfactory	24	80.0	4	13.3		

No signfcant at p> 0.05 .   **significant at p < 0.05 .*   ***high sgnfcant at p < 0.01*

Table (6): Comparison between control group & study group regarding post-operative health problems at post intervention:

Post operative health problems		Study group (n=30)		Control group (n=30)		X2	P value
		No	%	No	%		
Hyperthermia	Yes	5	16.7%	13	56.7%	5.079	0.024*
	No	25	83.3%	17	43.3%		
Wound infection	Yes	1	3.3%	7	23.3%	5.192	0.029*
	No	29	96.7%	23	76.7%		
Nausea/vomiting	Yes	2	6.7%	11	36.7%	7.954	0.005**
	No	28	93.3%	19	63.3%		
Constipation	Yes	2	6.7%	13	43.3%	10.756	0.001**
	No	28	93.3%	17	56.7%		
Cough	Yes	3	10%	11	36.7%	5.963	0.016*
	No	27	90%	19	63.3%		
Anorexia	Yes	1	3.3%	10	33.3%	9.017	0.003**
	No	29	96.7%	20	66.7%		

No signfcant at p> 0.05 .   **significant at p < 0.05 .*   ***high sgnfcant at p < 0.01*
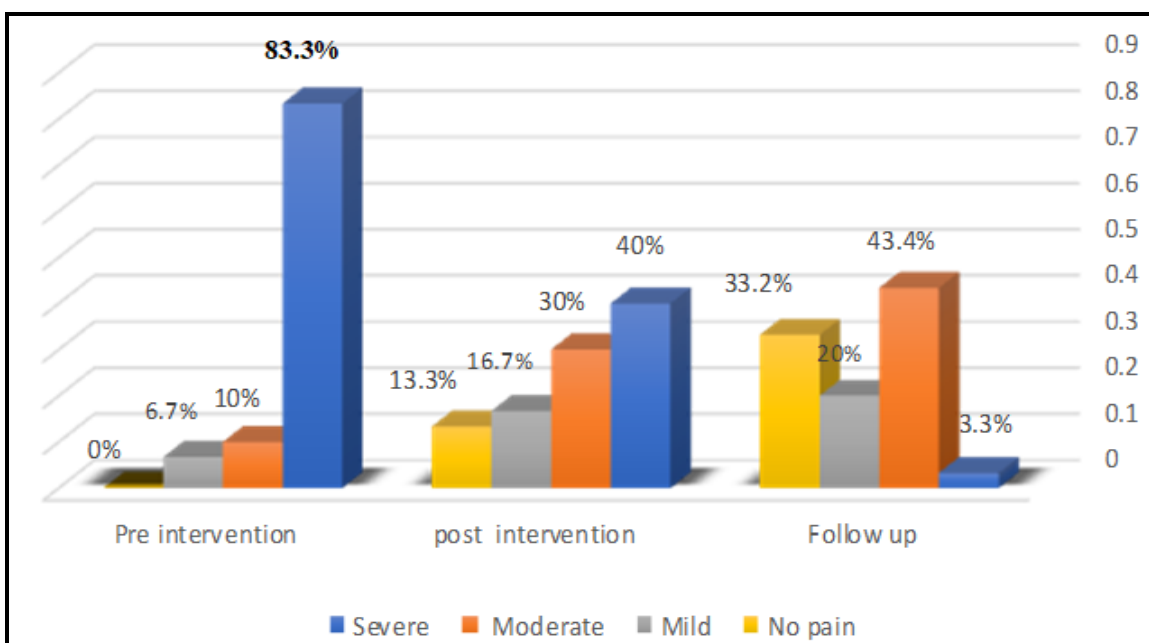

Figure (3): Percentage distribution of control group post-operative pain degree at pre, post, and follow up of intervention: n=30
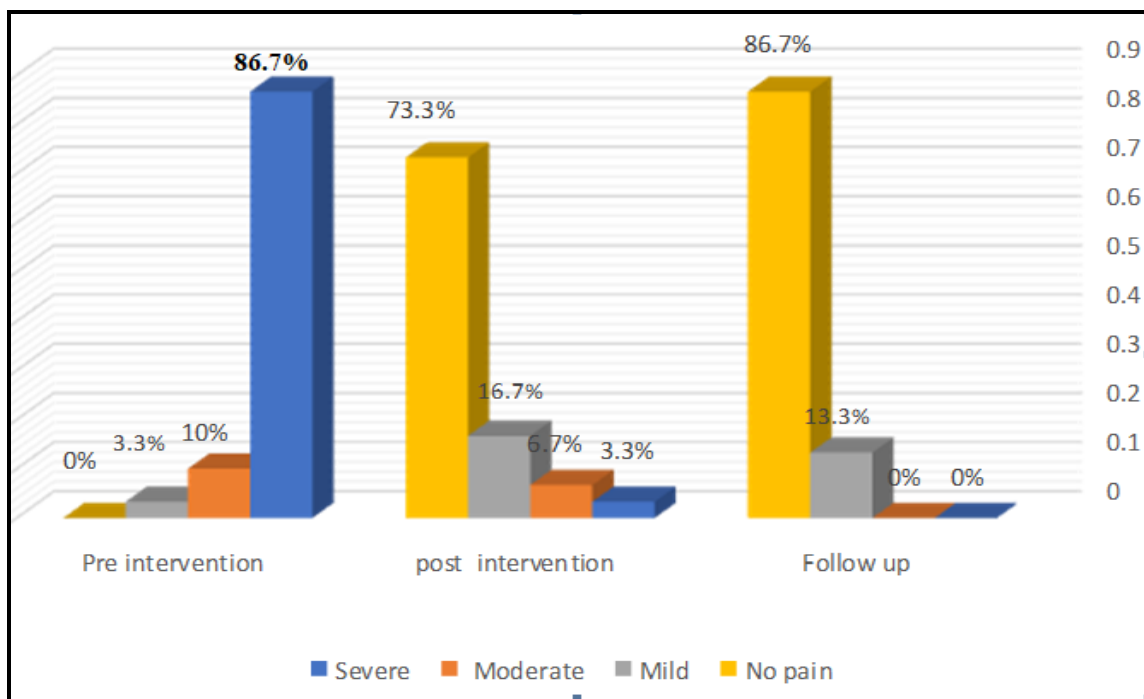
Figure (4): Percentage distribution of study group post-operative pain degree at pre, post, and follow up of intervention: n=30

Table (7): Comparison between control and study group regarding their total mean pain score at pre, post, and follow up of intervention n=30:

Total mean and SD of pain	Control group N=30	Study group N=30	t-test	P-value
	Mean ±SD	**Mean ±SD**		
Pre-intervention	7.93±2.03	7.73±1.53	1.760	0.668
Post-intervention	6.13±2.9	1.43±2.6	1.24	0.0001[**]
Follow up of intervention	4.13±3.22	0.53±1.38	5.44	0.005[**]

*No signfcant at p> 0.05 .   *significant at p < 0.05 .   **high sgnfcant at p < 0.01*

Table (1): Reveals that (56.7 % & 53.3%) of study and control groups their age ranged between (40-50)years respectivelt . Concerning to level of education, (46,7% & 23.3%) of study group had primary and secondary education respectivaly as compared with (30% & 26.7%) in control group. Regarding residenc (76,7%) of study group were living in rural areas as compared to (56,7%) of control group. (73,3%) of study group were married compared to (90%)of control group. There was no statistical significant difference between both groups regarding personal characchterstics (P -value >0.05).

Table (2): Prsents that (80%) of study group had abdominal hystrectomy compared to (73.3%) of control group. The main causes of hysterectomy among both groups were abnormal uterine bleeding followed by fibroid uterus which represented (50% &26.7) in study group respectively compared to (

56.7%& 30.0) of control group. There was no statistically significant difference between both groups regarding present surgical history (P-value >0.05).

Table (3): Illustrates that there was no statistical significant difference in self-care practices of control group after hysterectomy regarding wound care , pain management, diet, daily physical activities ,hygienic measures and sexual activity at post and follow up of intervention compared to pre-intervention (p < 0.05).

Table (4): Clarifies a highly statistically significant improvement in self-care practices of study group after hysterectomy regarding wound care, pain management, diet, daily physical activities, hygienic measures, and sexual activity at post and follow up of intervention compared to pre-intervention (p < 0.001).

Figure (1): Reveals that the majority (90% & 83.3%& 80%) of control group had un satisfactory total sef care pracices score after hystrectomy at pre, post and follow up of intervention respectively.

Figure (2): Indicates that (83.3%) of study group had unsatisfactory total self-care practices score after hysterectomy pre intervention while the majority (80% & 86.7%) of them had satisfactory level at post and follow up of intervention respectively.

Table (5): Points out that there was no statistically significant difference in total self-care practices score among control and study group after hysterectomy at pre intervention (p < 0.05). While there was a highly statistically significant difference between them at post and follow up of intervention (p < 0.001). the majority of study group (80% & 86.7%) had satisfactory total practice scores at post and follow up of intervention respectively compared to (16.7& 13.3%) of control group.

Table (6): Shows that there was a statistically significant difference between control & study group regarding post-operative health problems as hyperthermia, wound infection, and cough with p ≤ 0.05 post intervention. At the same time, there was a highly statistically significant difference between them regarding (nausea, vomiting, constipation, and anorexia) p≤ 0.001, also **there** was a decreased in the occurrence of post-operative health problems among study group compared to control group

Figure (3): Clarifies that 83.3% of control group had sever degree of pain pre-intervention while (40%&30%) of them had sever and moderate degree of pain at post intervention respectively. In addition, (43.4%& & 20%) of them had moderate and mild degree of pain at follow up of intervention respectively.

Figure (4): Shows that 86.7% of the study group had a severe degree of pain at pre-intervention while 73.3%, 86.7%, had no pain at the post and follow-up of intervention, respectively.

Table (7): Shows that there were no statistically significant differences in total mean pain score among control and study group after hysterectomy at pre intervention (p < 0.05). while there were highly statistically significant differences between them at post and follow up of intervention (p < 0.001). as the mean score of pain among study group was (1.43±2.6 & 0.53±1.38) at post and follow up of intervention respectively compared to (6.13±2.9 & 4.13±3.22) in the study group.

Discussion:

Nursing discharge plan advocated for post-hysterectomy women is necessary to gain favorable outcomes related to potential complications and discomforts control and thus for quality of their life,

(Klaiber et al., 2018). Nursing discharge guidelines and education for the discharge should be initiated to minimize anxiety and risk of developing complications to the extent that the patient acquires knowledge about how to prevent complications and minimize developing health problems. After surgery and hospital discharge, patients are at generalized risk for a wide range of many health problems and risks that may interfere with their life and lead to undesirable complications such problems should be at the priority of nursing education through discharge plan **(Seok & et al., 2021) In the light of the previous** outline, a quasi-experimental research design was used in this study to evaluate the efficacy of implementing discharge plan on Women undergoing hysterectomy.

Regarding the personal characteristics of the studied sample, the current study revealed that more than half of both control group and study their age (40-50)years. Concerning to level of education, nearly half of study group had primary education as compared with one third in control group. Regarding residence, around three quadrants of study group were living in rural areas as compared to more than half of control group. These results hinder the necessary for studied sample to full guidance, support, and education by health care team regarding common health issues.

In accordance, (**Abdelrahman et al., 2018**) evaluated the Effect of Designed Nursing Care Protocol On Minimizing Post Hysterectomy Complications At El Manial University Hospital illustrated that nearly half of both control and study groups age were ranged between 40 to less than 50 years old respectively and their mean age were 48.1±12 and 47.7±13.2 respectively. this was in accordance with (**Ibrahim & Mahmoud., 2020**) who assessed quality of life for women after hysterectomy revealed that slightly two-thirds of them their age ranged between 40 to 49 years where Mean age of them is = 46.56 ± 9.31, These findings noted that women who accepted hysterectomy procedures tended to increase with age.

Examining the present surgical history and in relation to types of hysterectomy the current study illustrated that abdominal hysterectomy was the most type of surgery for both groups, this result was assured by a study done (**Ibrahim & Mahmoud., 2020**) who investigated the Effect of Nursing Instructional Guideline on Women's Quality of Life after Hysterectomy, who indicated that abdominal hysterectomy was the most common type experienced by women this was because the most cause of hysterectomy due to fibroid and can't perform through vaginal. The finding was in the same line with (**Banovcinova & Jandurova.,2018**) who carried out Subjective perceptions of life among women after

hysterectomy on 70 women who underwent hysterectomy found about half of them, had an abdominal hysterectomy, this may be because the route of hysterectomy is mostly dependent upon institutional trends, personal preference, experience, and expertise of the operator with different approaches. Only a small number of surgeons are equally competent in performing hysterectomy by all routes, and most are comfortable with one route only, being trained better in VH or AH **(Guo et al., 2019).**

According to the main causes of hysterectomy among the studied sample, current study findings illustrated that causes were abnormal uterine bleeding followed by fibroid uterus with no statistically significant difference between both groups regarding present surgical history. this result was in similarity with **(Ibrahim & Mahmoud., 2020)** who reflected most studied women performed hysterectomy due to uterine fibroids which complained of vaginal bleeding and pelvic pain before surgery.

This study finding agreed with **(Jodie, et al, 2017)** who studied "Trends in hysterectomy rates among women " in the United States in Washington, found that chronic pelvic pain syndrome was the predominant cause of hysterectomy among women, these results may be because the surgery was done to correct problems that interfered with normal functions and to improve the quality of life. **Conversely**, (**Aarts et al., 2015**) found that the leading indications for hysterectomy were uterovaginal prolapse, while uterine fibroid with or without heavy menstrual bleeding was the second most common. Other indications include dysfunctional uterine bleeding endometrial hyperplasia, cervical intra-epithelial neoplasia chronic pelvic pain, and adenomyosis. Differences in indications might be related to variation in the criteria of sample characteristics and methodology

As regard to self-care practices after hysterectomy , the current study showed that there was no statistical significant differences among control group at post intervention and follow up compared to pre-intervention in form of wound care, pain management, diet, daily physical activities, hygienic measures and sexual activity meanwhile, there was a significant improvement in self-care practices after hysterectomy among study group at post intervention and follow up compared to pre intervention Concerning total self-care practices among the study sample the current study indicated that there was no statistical difference among control and intervention groups before intervention as most of them had unsatisfactory total self-care practice scores post-hysterectomy including Wound care, Diet habits, daily physical activities, hygienic measures, as well as sexual activity, This may be due to a lack of

knowledge and awareness about proper self-care measures to manage the postoperative period.

While there was a highly statistically significant difference between them at post and follow up of intervention as there was a higher score of satisfactory self-care practices post-hysterectomy among study group compared to control group. This assured the importance of continuous education and support utilizing discharge plan that provided great support and encouraged women to improve their self-care practices regarding postoperative care of hysterectomy and enhancing women to participate in performing their care that increased their self-esteem and independency, these findings proved study hypothesis.

This result was consistent with the findings of **(Kshetrimayum et al., 2015)** who investigated the effect of structured discharge teaching after hysterectomy. The results showed that after implementing structured discharge planning, the experimental group's mean score of self-care ability was higher than the comparison group's mean score and that the structure discharge planning was also effective that the women were able to perform self-care after returning home.

In accordance with our study findings, A study was conducted **by (Williams., 2018)** in Florida to assess the effects of preparation for a hysterectomy on women's postoperative self-care behaviors among 30 subjects; equally divided into experimental and control groups showed an improvement in self-care in the experimental group compared to control group, this similarity suggests that discharge planning was beneficial in improving women's abilities to care for themselves after a hysterectomy.

On investigating post-operative health problems experienced by women, the current study showed that there was a significant reduction of post-operative health problems in study group post intervention these problems include hyperthermia, wound infection, and cough as well as nausea, vomiting, constipation, and anorexia**.**

Current study findings were in the same line with **(Elgi, Viswanath.,2017)** who study of the effectiveness of a self-instructional module on knowledge and selected outcomes among women undergoing hysterectomy in a tertiary care hospital in South India found that, the severity of anxiety, pain, insomnia, abdominal discomfort, and fatigue was less in the experimental group than in the control group,

Similar to these findings, a study done by **(Kshetrimayum et al., 2015)** found that structured discharge instruction on self-care skills was useful in preventing hysterectomy complications. In the same a study done by **(Ibrahim & Mahmoud., 2020)** concerning total health complaints domains after

hysterectomy illustrated statistically significant differences in all items (vasomotor, sexual, social & psychological complaints) among studied women post-implementation of the nursing instructional guideline.

Contrary, a study done by **(Culha., et al , 2020)** investigated the Effect of a Structured Discharge Training Program on Patient Outcomes Following Gynecologic Surgery revealed that. The discharge training program was insufficient in helping women to manage better in post operative problems.

Concerning the assessment of pain degree experienced by women postoperatively, the present study clarified that there was no statistically significant difference in total mean pain score among control and study group post-hysterectomy at pre-intervention. while there was a highly statistically significant difference between them at post and follow up of intervention. that proved research hypothesis.

The current study finding is in the same line with **(Priya, et al, 2017)** who study the effectiveness of pre-operative instruction on knowledge, pain, and selected post-operative behaviors among women undergoing abdominal hysterectomy in a selected hospital, Bangalore, Karnataka, who found a significant reduction on post operative pain and improved selected postoperative behaviors of women in the experimental group. It suggested that providing pre-operative instruction on surgery and the performance of selected post-operative behaviors was effective.

Contrary **(Thorn & Lisbeth., 2017)** who studied the effectiveness of preoperative individual information on reducing anxiety and pain after hysterectomy among 20 postoperative women, showed that there was no statistically significant difference between the study and control groups with regards to postoperative pain**.** This may be due to the differences in study sample characteristics.

In conclusion, the present study emphasized and concluded important evidence concerning the remarkable effect of the application of discharge plan for women who underwent a hysterectomy in improving their self-care practices, reduction of experiencing post-operative health problems, there is evidence to suggest that discharge planning can reduce or minimize complications associated with quality of life of women. The aim of successful discharge planning is to return the patient to a condition of improved health in a short period of time. Nursing intervention can help the patient have a rapid recovery, discharge training after hysterectomy led to an improvement in physical health, also reducing complications

Conclusion:

The study concluded that there was highly statistically significant improvement in the women self-care practices post-hysterectomy, in addition to a significant reduction in experiencing postoperative health problems after implementing the discharge plan, also there was a remarkable reduction of pain mean scores among study group, these findings proved and supported our study hypothesis.

Recommendations:

In the light of previous study findings, the current study recommended:

1. Educational programs regarding self-care practices should be components of routine care for women undergoing hysterectomy.
2. Discharge planning regimen for self-care after hysterectomy should be devised and implemented in routine care for women undergoing hysterectomy pre-and post-operatively to prevent problems.
3. Replication of the same study on larger probability samples at different geographical locations for data generalization.
4. Further research is still needed to investigate the association between post-hysterectomy discharge plan and other health-related complications.

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