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Effect of Life Style Modification's Nursing Program on Post-operative Outcomes of Patients with Selected Benign Perianal Diseases

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Abstract
Benign perianal diseases are common pathologic lesions affecting millions worldwide which lead to significant morbidity and representing major medical and socioeconomic problems . **This study aiming to** evaluate the effect of life style modification's nursing program on post-operative outcomes of patients with selected benign perianal diseases. **Subjects**: A purposive sample of 100 adult patients undergoing a surgical procedure for hemorrhoid or/and anal fissure. **Setting**: The study was conducted at the general surgery department and general surgery out patient's clinics of Menoufia University hospital and Shebien El- kom Teaching hospital**. Tools of the study:** Four tools were utilized. Tool I: An interviewing questionnaire includes three parts: Personal data, medical data and patient's knowledge about diet and behavioral modification. Tool II: Post-operative complications assessment sheet. Tool III: Kegel exercise's performance checklist Tool IV: Self reported compliance assessment sheet. **Results:** There was statistically significant difference between study and control group regarding total means of knowledge, behavioral and exercises performance after intervention. There was statistically significant difference between study group and control group regarding post- operative complication. There were statistically significant differences regarding compliance about diet, behavioral modification and exercises in the study group than control group. Also, there was statistically significant reduction of recurrent manifestation of study group and control group after and six months. **Conclusion**: The implementation of lifestyle modifications program had led to improve healthy habits regarding diet, behavior and exercise practice that leading to reduce postoperative complication and also, is more effective on prevent the recurrence of manifestation after six months of follow up. **Recommendations:** Generalizing dietary and behavioral life style modifications among patients to prevent diseases initiation / symptoms aggravation reduce the incidence of surgery and disease recurrence after surgery.
Keywords: Life Style Modification's nursing program, Post-operative outcomes &Selected benign perianal diseases.
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1. Introduction

Operational definitions

Life style modification's nursing program: Simple and effective dietary, exercise and behavioral nursing measures to be followed by the patient from the day after surgery.
Post-operative outcomes: Include postoperative complications, manifestation's recurrence, Dietary, behavioral and exercise modification and participant compliance with learned program outline.
Selected benign perianal diseases: Hemorrhoids and anal fissures.
Hemorrhoids and anal fissures are the most common types of benign perianal lesions affecting a large sector of people all over the world. Embarrassment of people when facing these problems enforce them to seek medical attention only when the case is badly advanced so the prevalence of these diseases in the general population is extremely higher than that presented in clinical practice (Sun and Migaly, 2016). There are many risk factors that leading to perianal diseases including genetics, aging, irregular bowel habits as chronic constipation, passing large hard stools, ongoing diarrhea, lack of exercise, low-fiber diets, increased intra-abdominal pressure as with chronic cough, multiple pregnancy and obesity as well as prolonged sitting or standing, pelvic floor dysfunction, squatting with straining while defecating, sitting on the toilet for long time to defecate and persistent straining (Hollingshead and Phillips ,2016).

Benign perianal diseases require medical and surgical treatment. Also, lifestyle modifications which include diet, exercise and behavioral changes are an integral part of the treatment and prevention of the benign perianal lesions complications and recurrences. Treatment modalities aim to prevent or minimize postoperative complications, shortening hospital stay, and improving quality of life (Sud and Khan ,2014).

Benign perianal lesions management including initial conservative measures as lifestyle modification considered as one of the primary steps in prevention and management of the benign perianal diseases. These modifications also improve the outcomes of surgical treatment and increase the long-term cure rate with the prevention of postoperative complications especially recurrences episodes. Lifestyle modifications include

improving anal hygiene, corrective toilet positioning in which knees higher than hips, leaning forwards, elbows placed on knees, not sitting on the toilet for long periods of time, not straining on the toilet during defecation, high fiber diet , increased hydration, weight reduction, avoidance of constipation and diarrhea and stop smoking, increase fiber intake, well hydration and sitz baths and rest. Most patients with hemorrhoids and anal fissures respond to initial management with lifestyle modifications (Pillant-Le Moult Het al., 2015)

Not only dietary and behavioral modification but also exercising regularly maintaining normal bowel movements and relieves the pressure on the veins in the rectum. Moreover practicing Kegel exercise strengthen the pelvic floor muscles and increase circulation to the rectum and perineum, which may help reduce risk for hemorrhoids complications and recurrence episodes (Wald et al., 2014). In addition to medical treatment there are number of surgical procedures may be performed if symptoms are severe or do not improve with conservative and medical management. Excisional hemorrhoidectomy has long been the standard treatment of symptomatic internal and external hemorrhoids. Today, the stapled anopexy technique is considered to be a more physiological procedure as the hemorrhoids are replaced in their anatomic position rather than being excised. Current aims of the treatment modalities are minimizing postoperative complications, shortening hospital stay and improving quality of life (Davis et al.,2018).

All surgical treatments are usually associated with some degree of complications including bleeding, infection, anal strictures and urinary retention, due to the close proximity of the rectum to the nerves that supply the bladder. Also, a small risk of fecal incontinence occurs, particularly of liquid, Mucosal ectropion is another condition which may occur after hemorrhoidectomy, often together with anal stenosis. This is where the anal mucosa becomes reverted from the anus, similar to a very mild form of rectal prolapse. Some people may have recurrent symptomatic episodes (et al., 2016).

A great deal of effort has been devoted to preventing recurrence of benign perianal episodes through maintenance of healthy lifestyle modifications with its component of diet, exercises and behavior. So the aim of the study was to evaluate the effect of life style modification's nursing program on post-operative outcomes of patients with selected benign perianal diseases.

Significance of study

Despite the fact that countless patients suffer from symptoms of perianal diseases, there tends to be a lack of understanding of the healthy anal lifestyle. Unfortunately, this deteriorates the problem and affects patients' physical, emotional and psychological status, leading to many complications which burden patients, family and community. Applying healthy anal lifestyle modifications, achieving unmet needs through implementing a suitable plan of care for those patients who will reduce the frequency of complications by improving patient's knowledge and practiced skills (Lo et al., 2009).

Conceptual framework

The conceptual framework that guided this study was Orem's model which focuses on each individual's ability to perform self-care. This is defined as "the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health and wellbeing. The basic premise of the model is that individuals can take responsibility for their health and to care for themselves (King ,1981).

Aim of the study

The aim of this study was to evaluate the effect of life style modification's nursing program on post-operative outcomes of patients with selected benign perianal diseases.

Study hypotheses:

- The study group participants who receive the nursing program will exhibits more knowledge, compliance and satisfied practice of learned dietary, exercises and behavioral life style modifications compared to the control group participants who do not exposed.
- The study group participants who receive the nursing program will exhibit low recurrence of manifestation, little postoperative complication and more reduction in weight and number of smoked cigarettes compared to the control group participants who do not receive.

2. Methodology

Research design

A Quasi experimental research design was utilized in this study.

Research setting

The study was conducted in the general surgery department and general surgery out patient's clinics of Menoufia University hospital and Shebien El- kom Teaching hospital .

Research sample

A purposive sample of 100 adult patients whom undergoing surgical operation for hemorrhoid and anal fissure in the general surgery unit of Menoufia University hospitals and Shebien El- kom teaching hospital was selected based on power of 80 %. The required sample size was determined using Epi info software. Patients were assigned randomly into two equal groups, 50 patients for each group (study and control).

- **Study group (1):** patients received the lifestyle modification's nursing program and practicing it along with routine hospital oral instructions.
- **Control group (2):** patients were exposed only to the routine hospital oral instructions.

Inclusion criteria:

- Both sex
- Free from psychiatric problem or systematic disease.
- Able to cooperate and communicate

Tools of the study: four tools were utilized by researchers for data collection.

Tool I: An interviewing structured questionnaire: It was developed by researcher based on comprehensive recent literature review to assess the base line data of all participants. It was comprised of three parts:

Part one: Personal data: Comprised of six questions about patient's age, sex, level of education, marital status, nature of work, income status.

Part two: Medical data: Comprised of six questions about patient medical data as patient's previous benign perianal diseases surgery, number of smoked cigarettes per day, performed exercises and family history of benign perianal diseases. For female only, type and number of delivery.

Part three: Patient's knowledge about life style modification's program items: It was composed of two main sections

Section one: Dietary modification's knowledge : it contain six open end question about eating high fiber diet, drink plenty of water, avoid spicy food, excessive caffeinated beverage , diet that leading to constipation or lactose in dairy products.

Section two: Behavioral modification's knowledge which consisted of 9 open end question regarding

1- **Behavior to be avoided** as (carry heavy object, sit /stand for long time, sit long time during defecation, straining during defecation, laxative as possible).
2- **Behavior to be followed** as (using soft clothes after defecation, using cotton under wear, warm tape bath to relieve pain & spasm).

Dietary and behavioral knowledge scoring system:

Each question was given two marks if the subject reported completely correct answer, one mark if the subject reported incompletely correct answer and zero if the subject reported wrong answer or don't know the answer. All participants' answers about knowledge questions were computed to obtain total mean scores and categorized as poor knowledge if the patient scored <50% of the total score, average knowledge if the patient scored 50-65 % of the total score and good knowledge if the patient scored > 65 % of the total score.

Tool II. Post-operative complications assessment sheet.

It was designed to assess presence or absence of post-operative complications after a week from operation and during the first follow up as pain, bleeding, urine retention, incontinence, wound leakage, constipation and diarrhea.

Tool III. Kegel exercise's performance checklist: It was developed by Arnold Kegel (1948) then adapted by the researcher after relevant recent comprehensive literature review to assess the subject's exercises performance and compliance. The subjects started these exercises after2 months from operation and after doctor verification of no complications and complete healing of the wound. It consisted of seven steps(locate true pelvic muscles-lying/sit / stand while practice-contract pelvic muscles floor 3- second then relax for the same time- repeat cycle 10 times- keep muscles of abdomen, leg &buttocks relax- gradual increase length of contraction & relaxation- keep Kegel exercise part of daily routine, especially with any activity increase the intra-abdominal pressure)

Scoring system

Each subject was given a score of two if the subject performed each exercise perfectly, accurately and completely, a score of one if this exercise was performed accurately but incompletely and a score of zero if this exercise did not performed.

Tool IV. Self-reported compliance assessment sheet.

It was comprised of six questions about patient's compliance with the given instructions about diet modification, behavioral modification, Kegel exercise, smoking reduction, patient's body mass index and recurrent manifestation benign perianal diseases. Final responses were compared with the base line responses.

Scoring system

Each subject was given a score of two if the subject comply with each item of life style modification, a score of one if comply to some extent and a score of zero with no compliance.

Validity and reliability

All tools were tested for its content validity by three experts in the field of Medical Surgical Nursing, Faculty of Nursing, Menoufia University, and two experts in the field of surgical specialty, Faculty of Medicine, Menoufia University. Modifications were done accordingly. Reliability: Test retest was used to ascertain reliability of the developed tools, the period between each test was 2 weeks and these patients were excluded from the sample. The reliability of tool one was 0.89, tool two was 0.92 and tool three was 0.89 and.

Pilot study

Prior to data collection a pilot study was conducted on ten patients (10%) to test the clarity and the applicability of the developed tools. The necessary modifications were done accordingly. Data obtained from those subjects were not included in the current study.

Ethical and administrative considerations:

- An official letter was sent from the dean of the Faculty of Nursing, Menoufia University to the directors of the related places explaining the purpose and methods of data collection.
- Patient's written consent to participate in this study was obtained after explanation of the purpose of the study then they were reassured that any information obtained would be confidential and would be used only for the study purpose.
- The researcher emphasized that participation in the study is entirely voluntary and anonymity of the patients were assured through coding data. Subjects were also informed that refusal to participate would not affect their care.

Data collection Procedure:

- Data collection was extended from the first of June, 2018 to the end of December, 2018 using the prepared tools.
- All official permission was obtained from the previously mentioned settings
- The researchers initiated data collection from patients fulfilled the inclusion criteria while attended the selected hospital two days per week, from 9.00 A.M. to 2.00 P.M.
- Patients who met the study inclusion criteria were selected and divided alternatively into two equal groups, fifty patients in each group.

A- Study group (1): patients received the life style modification nursing program and practiced it after discharge along with routine hospital oral instruction.

B- Control group (2): patients were exposed only to the routine hospital oral instruction.

Four phases were utilized for data collection

Preparatory phase:

An illustrative structured colored booklet was prepared to be introduced to study group (group I) as a guide for all of pertinent data related to protocol of interventions. This booklet included information about definition, pathophysiology, risk factors, manifestations, prevention, complication and treatment. Also it had the recommended life style modifications about nutritional, exercises and behavioral nursing program. The booklet was written in simple Arabic language supported by illustrative pictures as a guide for illiterate patients. The booklet was tested by the experts in the Medical Surgical Nursing and Surgery field to check the content relevance, clarity and feasibility.

Interviewing phase:

In this phase the researcher introduced herself to the participants and explained to them the program objectives content, and procedures immediately on admission, after planning for surgery and each patient of both groups was interviewed to collect personal and medical base line data using structured interviewing questionnaire.

Assessment phase

In this phase, the researcher started to assess Patient's knowledge regarding diseases recommended life style dietary, behavioral and practices modifications data using tool 1 part 3 and estimating the BMI this phase lasting 10 minutes

Implementation phase:

This phase started immediately after assessment phase while the intervention program was implemented

A-Study group: Proposed individualized life style modifications nursing program was carried out only for each patient of the study group in surgical word and surgical outpatient clinics. Oral instructions as a method of teaching supported with booklet was used to introduce the theoretical part of the program while demonstration and re-demonstration method was used for the practical components of the program. Two sessions were given to each patient; each for at least 30 minutes as the following

1- **First session:** before surgery, each patient was given an individualized and comprehensive knowledge about the post-operative instruction to be followed immediately after operation for a week from surgery illustrated by colored booklet and the possible postoperative complications.

2- **Second session:** after surgery by a week, during the first follow up in the outpatient clinic which includes:

- Patients of both groups assessed for postoperative complications using II structured tool.
- Nutritional modification was taught for each patient of study group. The allowed and prohibited food was explained to them (high fiber diet, proper hydration, smoking cessation, limitation of caffeine, decreasing overall sodium in food and drinks and limiting total calories intake).
- Behavioral modification: as improving anal hygiene, corrective toilet, not sitting on the toilet for long periods of time, avoid excessive laxative use; refrain from lifting heavy things and straining during defecation.

- Counseling and teaching was done about Kegel exercises to be performed post discharge illustrated by colored booklet. Exercises were demonstrated and re-demonstrated by each patient and also they were asked to practice and comply with these exercises after complete recovery from surgery long life after clarification of its benefits for all pelvic organs.
- Each patient was allowed to ask any question and also they were advised to carry out the routine hospital care as prescribed by the treating physicians. Telephone contact is maintained to assess them continuously to be sure that they follow **the program as illustrated by the researcher.**

B - Control group: these followed the routine hospital oral instruction without interferences from researcher. But telephone contact is maintained to assess them continuously to be compared with study group.

Evaluation and follow up phase:

In this phase, patients were reassessed at the one week, 3rd and 6th month after the first assessment using all tools except **part I, II of tool 1.** Comparison of both groups was done to evaluate the effect of life style modification's nursing program on post-operative outcomes of patients with selected benign perianal diseases. The session took approximately 20 minutes.

Statistical analysis:

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using Excel program. Quantitative data as total score of knowledge, as well as the total score of practice were presented by mean (X) and standard deviation (SD). It was analyzed using student t- test for comparison between two means, and Two-Way Repeated Measures ANOVA (mixed design) for comparison of mean and SD of each type of, as well as total score of, between the four levels of intervention (before intervention, immediately after one week, 3 month after intervention, and 6 months after intervention for diet) and between the two levels of intervention (after two month and six months for kegel exercise in both the study group, and control. Qualitative data were presented in the form of frequency distribution tables, number and percentage. It was analyzed by chi-square ($\chi 2$) test. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used (if the table was 4 cells), or Likelihood Ratio (LR) test (if the table was more than 4 cells). Level of significance was set as P value <0.05 for all significant tests (Dawson and Trapp , 2001).

3. RESULTS

As revealed in **table 1,** most patients in both group was male, married, and were between 31 to 40 years in both groups. Regarding educational level more than half of both groups held middle education and about two thirds of both groups (58%) stated that their incomes are less than their expenses. There was no statistically significant difference between the control and study groups in all personal characteristics as P > 0.05.

Table 1: Personal characteristics of studied groups (N=100)

Personal characters	Groups of study				X^2	P value
	Study		Control			
	N0(50)	%	N0(50)	%		
Age						
19 - 30 years	17	34	15	30	0.25	0.88
31 - 40 years	18	36	18	36		
41- 58 years	15	30	17	34		
Sex						
Male	30	60	32	64	0.0	1.0
Female	20	40	18	36		
Education						
Elementary school	5	10	8	16	0.8	0.6
Middle school	28	56	26	52		
University	17	34	16	32		
Nature of work						
Required physical effort	18	36	18	36	2.1	0.35
Required mental effort	24	48	25	50		
Not work /house wife	8	16	7	14		
Marital status						
Single	12	24	13	36	0.05*	0.97
Married	37	74	36	72		
Widow	1	2	1	2		
Income						
More than expense	4	8	4	8	0.04*	0.97
Equal expense	17	34	18	36		
Less than expense	29	58	28	58		

(*) Likelihood Ratio.

As regarded to the surgical experiences, **Table 2** showed that about three forth of study & control groups (74%&76% respectively) previously done same surgeries. there were no statistically significant differences between both groups in relation to all medical data as P > 0.05.

Table 2: Medical data of both groups (N=100)

Medical data	Groups of study				X^2	P value
	Study		Control			
	N0(50)	%	N0(50)	%		
Previously same surgeries						
Yes	13	26	12	24		
No	37	74	38	76	0.05	0.81
Positive family history						
Yes	32	64	29	58	0.3	0.53
No	18	36	21	42		
Number of deliveries						
No deliveries	30	60	34	68	1.2	0.5
1-2 deliveries	15	30	14	28		
3-5 deliveries	5	10	2	4		
Type of delivery						
No deliveries	30	60	34	68	1.2*	0.55
Normal delivery	15	30	14	28		
Cesarean section	5	10	2	4		
physical activity						
Nothing	20	40	27	54	2.3*	0.32
Sometime	26	52	21	42		
Regular	4	8	2	4		
BMI						
Mean ±SD	27.9±3.1		28.0±2.7		0.23**	0.8

(*): Likelihood Ratio. ( ) : T test.**

Table 3 illustrated that, before intervention, there were no statistically significant differences between both groups regarding total dietary and behavioral knowledge score ,while after intervention by 3 and 6 months , there were high statistically significant difference between both groups related to the same mentioned items with P value 0.000 .

Table 3: Total dietary and behavioral knowledge score before intervention, 3 and 6 months after intervention in both groups.

Items	Before Intervention				3 month after intervention				6 month after intervention				ANOVA test-	P value
	Study		control		Study		Control		Study		control			
	N0	%	N0	%	N0	%	N0	%	N0	%	N0	%		
Total dietary knowledge score														
Poor < 50%	30	60	26	52	4	8	27	54	4	8	27	54	Fr	0.000 *
Fair 50 - 65	16	32	18	36	33	66	18	36	33	66	18	36	=108.5	
Good > 65 %	4	8	6	12	13	26	5	10	13	26	5	10		
X^2- P value	0.80 - 0.66				25.0 - 0.000		HS		25.0 - 0.000		HS			
Total behavioral knowledge score														
Poor < 50%	16	32	12	24	0	0	10	20	0	0	10	20	Fr=108.5	0.000
Fair 50 - 65	19	38	25	50	21	42	32	64	23	46	33	66		*
Good > 65 %	15	30	13	26	29	58	8	16	27	54	7	14		
X^2- P value	1.5 - 0.45				24.2 - 0.0 HS				23.6 - 0.000		HS			

(*): High statistical significant. Fr= Friedman test.

As indicated in table 4, after surgery by a week, there were statistically significant differences between study and control group in relation to pain , bleeding, involuntary defecation and drainage from operation site with P value 0.02,0.02,0.002 & 0.000 respectively)

Table 4: Post -operative complications among participants of both groups by a week after intervention.

Post—operative complications	Groups of study				X^2	P value
	Study		Control			
	N0. 50	%	N0.50	%		
Pain	27	54	38	76	5.32	0.02*
Bleeding	8	16	18	36	5.1	0.02*
Involuntary defecation	6	12	19	38	8.9	0.002 *
Urinary incontinence	7	14	6	12	0.09	0.76
Diarrhea	8	16	8	16	1.05	0.31
Constipation	11	22	18	36	2.4	0.1
Drainage from operation site	9	18	26	52	12.7	0.000**

(*): Statistical significant. (**): High statistical significant.

Table 5 explained that, after both 3 and 6 months, there were high statistically significant differences (P=0.000) between both groups in relation to compliance with recommended dietary, behavioral and exercise modifications.

Table 5: patient's compliance with life style modification's items in both groups post -operative by 3 and 6 months.

Compliance items	After 3 month		After 6 month		Friedman test	P value
	Study (N=50)	control (N=50)	Study (N=50)	control (N=50)		
Dietary guidelines						
Mean± SD	7.5±1.9	5.1±2.0	7.3±2	5.1±2.1	42.4	0.000 *
T-test - P value	5.8 - 0.000 *		5.3 - 0.000*			
Behavioral guidelines						
Mean± SD	15.4 ±3.1	11.4 ±3.1	15.2 ±3.3	11.1 ±3.1	29.8	0.000 *
T-test - P value	6.4 - 0.000 *		6.3 - 0.000 *			
Kegel exercise practice						
Mean± SD)	15.2 ±1.3	5.6±4.1	12.9±4.6	5.1±4.1	18.4	0.000 *
T-test - P value	15.4 - 0.000 *		8.7 - 0.000 *			

(*): High statistical significant.

Table 6 demonstrated that, after 6 month, the study group participant showed significant reduction in number of smoked cigarette, body weight and benign perianal diseases manifestation's recurrence than control group with a statistically significant difference between as p was 0.01,0.03 and 0.001 respectively.

Table 6: Comparisons' of total means score of smoked cigarette number, body mass index and recurrence of manifestation between both groups after intervention by 3 and 6 months.

Items	Post intervention by 3 months		Post intervention by 6 months	
	Study group N =50	Control group N =50	Study group N =50	Control group N =50
Number of smoked cigarettes				
Mean± SD	2.80 ± 1.05	3.61 ± 1.1	2.5 ± 1.3	5.1 ± 2.4
T-test - P value	1.3- 0.17		2.58 - 0.01*.	
Body mass index				
Mean± SD	27.32 ± 2.92	27.61 ± 2.67	24.55 ± 2.68	27.46 ± 2.65
T-test - P value	0.51- 0.61		t=2.3 - 0.03*.	
Manifestation, s recurrence				
Mean± SD	.26 ± .44	.46 ± .50	.68 ± 1.07	1.56 ± 1.14
T-test - P value	2.10 - 0.03*		3.9 - 0.001**	

(*): Significant result. (**): High statistical significant.

4. Discussion

Hospitalization and surgery are critical negative life events that lead to the experience of considerable patients fear and worry about the future adaptation. Pre and post- operative nursing education whether was written or verbal usually aiming to improve knowledge, allay these feelings and promote patients adaptation (Bayraktar et al., 2018).

Regarding demographic data the present study presented that the largest percentage of both study and control groups was 30 years of age, this can be attributed to increasing the tonicity of the muscles during this age, which resists the passage of hard stool and will result in hemorrhoids and fissure formation. This result agreed with Abd-

Elmaged et al., 2018 who study "Effect of designed nursing guidelines on acute anal fissure treatment outcomes", in Egypt, they found that the highest percentage of acute and chronic anal fissure cases occurs in the age group (21-30 years of age). In this study it was noticed that the male had a higher incidence of benign Perianal disease than women. This result agreed with Kuiri et al., 2014 who conducted a "Comparative Study of lateral Sphincterotomy Versus Local 2% Diltiazem Ointment for the Treatment of Chronic Anal Fissure" and found that the highest rate of anal fissure was among male. On the contrary, Abd-Elmaged et al., 2018 and Mapel et al., 2014 who studied 1243 patients with anal fissure and reported that women had a higher overall incidence of anal fissure than men. While Jonas and Scholefield ,2001 reported that anal fissure is equally affecting both sexes.

The evidence to support any single theory of perianal disease is sparse. It seems most likely that the cause of symptom development is multifactorial, including several patient-specific variables such as diet, behavior, and possibly genetic influences. Related to the causes of benign perianal diseases this study showed that the highest percentage in both groups was due to constipation, this result from the researcher opinion due to unhealthy dietary habits was measured before conducting the lifestyle modification as increasing fiber and fluid intake which lead to the passage of a hard stool and injury of the anal mucosa. Also, this study reported that the majority of the studied patients in both groups are overweight and obese (mean and SD of BMI in study and control group was 27.9±3.1 and 28.0±2.7 respectively) and there was large percent of the studied sample in both group was delivered normally with positive family history of hemorrhoid. These results ensure that obesity, recurrent pregnancies and vaginal delivery predisposing to perianal diseases especially hemorrhoids as a result of increased intra-abdominal pressure. It has been estimated that 25% to 35% of pregnant women are affected by this condition. In certain populations, up to 85% of pregnancies are affected by hemorrhoids in the third trimester (Abramowitz et al.,2012). Results indicated also that the presence of family history of disease among majority of the patients, accordance with Gaj and Trecca 2007 w,ho reported that, hemorrhoid causes could be attributed to a family history of “weak” veins that lead to the development of hemorrhoids and other varicose veins.

Our study reported that large percent of patients in both groups their work required mental effort and not practicing any physical activity. In the same line, Feldman et al., 2015 stated that the emphasis was on exercise, because lack of exercise and sedentary lifestyle are associated with the development of anal fissure and hemorrhoids. Exercise helps keep waste moving through intestinal tract. In turn, this helps patients avoid constipation and dry, hard stool. A moderate session of aerobic exercise lasting 15 to 20 minutes can help regulate bowel function. This will make trips to the bathroom easier, and help treat or prevent hemorrhoids. This typically involves kegel exercise program, Squeezes and contract pelvic muscles without pulling in the stomach, squeezing legs together, tightening the butt, or holding the breath. Nurses could describe the exercise to patients with Benign Perianal Diseases that has a great advantage of being easy and can be done at any time without being noticed by others. It also, has significant positive effect on strengthens pelvic floor muscle. All these, come with Villalba et al., 2007 whom reported that, the most benefit measures in case of anal fissure and hemorrhoid are change in life style, such changes include increasing the amount of fiber in the diet, which is especially helpful for grade I and II. Preventing constipation also helps alleviate more severe hemorrhoids and can help to prevent future episodes. As well increasing physical exercise, limiting time on the commode, or improving local hygiene is beneficial, and these measures are usually recommended.

Regarding the total mean knowledge score about healthy lifestyle habits which include "dietary, behavioral and exercises modification" the present study revealed that all patients in both groups (study & control) did not practice healthy habits about diet, behavioral habits and exercise habits regarding Benign Perianal Diseases, as shown there was no statistically significant difference between study and control group before the implementation of the nursing intervention program. However, there was a high statistically significant improvement in the two levels of follow up as shown that, total mean score about dietary healthy habits and behavioral modification among the study group was improved and there was highly statistically significant improvement after three month and after six months follow up than in pre test and also, in exercise practice there was highly statically significant difference between study group and control group regarding practice of kegel exercise . On the basis of current finding, it can be said that verbal and written planned instruction of the patients with hemorrhoid and fissure on lifestyle modifications improves their healthy lifestyle. In the same line with the current study, Khan et al., 2015 concluded that anal fissure is a common anorectal condition, constipation and other life style factors are the modifiable risk factors for the anal fissure. They added that health education should be provided to the patients to adopt certain lifestyle changes that can be beneficial to limit the progress of the disease. Result of the present study supports the results of the similar educational intervention studies showing positive effects of perioperative patient instruction on care quality, self-care, patient satisfaction, hospital readmission, and clinical outcomes (Wald et al., 2014).

In the present study, pain, bleeding, constipation, leakage from wound, diarrhea, urinary retention, and fecal incontinence were found as postoperative problems. The results of the present study are similar to the results found by Bayratar et al., 2018 and Liang & Church 2015 in terms of postoperative problems.The most common postoperative complications are pain, bleeding and urinary difficulty. Patients was cautioned that, they might feel

a pressure or fullness sensation after surgery, so they instructed about sitz baths , avoid straining which occur with both hard stools and diarrhea ,avoid heavy-duty weight-lifting squats and similar motions that increase abdominal pressure. Regarding the effect of the lifestyle modification intervention on benign perianal diseases on wound healing and prevent recurrent manifestation the present study proved that after the lifestyle modification intervention there was a significant improvement in the pain level, wound healing, involuntary defecation and drainage from the site of operation among the study group than in the control group. From the researchers point of view this may be due to containment of the nursing intervention with the all needed instructions that help in healing of the fissure (e.g., increasing fluids and fibers, sitz bath, hygienic care, and exercises) plus the treatment protocol (stool softener, and anesthetic creams). Also, continuous follow-up of study group by the researchers to ensure commitment of the patients to implement the nursing guidelines.

Regarding compliance with lifestyle modification as shown from the result of this study there was high significant difference between study group and control group in follow up. In addition, there was correlation coefficient between compliance with lifestyle modification and recurrence of manifestation after 6 months, this indicated that lifestyle modification have positive effect on reducing or preventing recurrence manifestation among patients in the study sample, throughout the study phases, results indicated that, there was a significant reduction of the recurrent manifestation among study group than control group after three and six months which indicated that the effectiveness of the provided conservative measures which include hygienic care as correcting certain sanitary practices, certain life habits that should be avoided as don't lifting heavy objects, dietary management consisting of adequate fluid and fiber intake to relieve constipation and eliminate straining at defecation, sits baths, kegel exercise and avoid reading on the commode for patients in the studied groups, this comes on line with, Alonso-Coello et al ., 2005 who identified that, modifying diet which include high fiber diet, increase fluid intake and avoid caffeinated, behavioral changes which include certain lifting activities that are part of a persons, occupation or the body weight that is carried, can make abdominal muscles involuntarily push weak rectal muscles. Subsequently, this will result in prolapsed muscles or muscles that were pushed out of the anal opening. She also reported that, straining during bowel movements and constipation cause hemorrhoids to form, and irritate present hemorrhoids and the effect of Kegel exercise on the severity of hemorrhoid's symptoms, results indicated that the beneficial effect of the exercise that provided to the patients in the study group that comes incongruent with Nelson et al.,2012 who reported that, exercising helps increase the movement of stool through the body and prevents constipation. Decrease in straining during bowel movements avoids irritating the inflamed tissue. The researcher's point of view is that, Kegel exercise, strengths the pelvic floor muscles which lead to decrease the protrusion as well as painful sensation and is effective in preventing Benign Perianal Diseases which include hemorrhoids and anal fissure. Furthermore, the lifestyle modification is not only effective in reducing recurrence manifestation of Benign Perianal diseases but also in reducing unhealthy behavior which include smoking and overweight.

5. Conclusion

The study hypothesis was accepted as

- Study group participants exhibiting more increased knowledge, improved behavior, satisfied practice and more compliance with the lifestyle modifications compared to the control group participants.
- Study group participants reporting reduction in number of smoked cigarette, body mass index, postoperative complications and recurrent manifestation compared to the control group participants.

6. Recommendations

Based on the findings of the current study, the following recommendations can be suggested:

- Generalizing dietary and behavioral life style modifications among patients to prevent diseases initiation or symptoms aggravation reduce the incidence of surgery and recurrence after surgery.
- Encourage nurses to provide health education about lifestyle modification intervention to enhance patient care, home care, and adoption of healthy behavior.
- Developing illustrated pamphlet to be available and distributed to all patients with perianal diseases admitted to hospitals.

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