Effect of Conservative Measures in Improving Hemorrhoid Stages and Relieving Symptoms among Patients with Hemorrhoid

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Abstract: Hemorrhoids (piles) are swollen veins at or near the anus, normally asymptomatic. They do not constitute a disease, unless they become symptomatic. Symptomatic hemorrhoids affect at least 50% of the American population at some time during their lives, with around 5% of the population suffering at any given time, and both sexes experiencing the same incidence of the condition. In Egypt, hemorrhoid is considered one of the most frequent diseases of the anal region with high prevalence (nearly 50% of proctological visits in a colorectal unit) involving any age and affecting both males and females equally. Aim of the study was to evaluate the effect of conservative measures in improving hemorrhoid stages and relieving symptoms among patients with hemorrhoid. Hypothesis were; Patients who received conservative measures (diet & hygienic care) will be having better improvement in hemorrhoid stage and symptom scores post intervention and one month later as compared to prior intervention. Patients who received conservative measures and Kegel exercise will be having better improvement in hemorrhoid stage and symptom scores post intervention and one month later as compared to prior intervention. This quasi-experimental study was conducted at outpatient surgery clinics in El-Naser Insurance Hospitals in Helwan City, El-Demerdash Hospital affiliated to Ain Shams University, and Ahmed Maher Educational Hospital, in Cairo, on a consecutive sample of 90 adults complaining of stage one or two of hemorrhoid. Four tools were used for data collection; namely an interview form, hemorrhoid symptoms, assessment sheet, hemorrhoid stages, assessment sheet and observational checklist about kegel exercise for hemorrhoids. An individualized conservative measure was developed based on the findings of the assessment, and in the light of related literature, it was implemented, and evaluated. Results revealed severity of the hemorrhoid symptoms and stages among the studied sample in the pre-intervention stage with statistically significant improvements at the post-intervention phase ($p<0.001$).As well, there was some improvements in hemorrhoid stages in the two studied groups as compared to the control group ($p<0.001$). There were improvements in the hemorrhoid stages and symptoms among patients in the study group (1) as compared to study group (2) ($p<0.001$) as a result of kegel exercise provided to patients in the study group(1). These results revealed that, conservative measures provided to the patients in the studied groups (1, 2), as well as the provided Kegel exercise followed by patients in the study group (1) were effective in improving their hemorrhoid's symptoms and stages. It is concluded that conservative measure has highly statistically significant positive effect in improving the hemorrhoid stages and symptoms of patients used diet and hygienic care or kegel exercise It is recommended to generalize such conservative measures in hospitals for teaching hemorrhoid patient hygienic care, diet, and application of the instructions regarding nutrition, voiding habit and hygienic care in addition to exercise.

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Key words: conservative measures, kegel Exercise, hemorrhoid stages, hemorrhoid symptoms.

1. Introduction:

Hemorrhoids (piles) are swollen veins at or near the anus, normally asymptomatic. They do not constitute a disease, unless they become symptomatic. Symptomatic hemorrhoids affect at least 50% of the American population at some time during their lives, with around 5% of the population suffering at any given time, and both sexes experiencing the same incidence of the condition (1,2). They are more common in Caucasians (3). In Egypt there is a high incidence rate of hemorrhoid as reported by Nakeeb et al. (4), that hemorrhoid is considered one of the most frequent diseases of the anal region with high prevalence (nearly 50% of proctological visits in a colorectal unit) involving any age and affecting both males and females equally.

Hemorrhoids are normal vascular structures in the anal canal which help with stool control (5, 6). They become pathological or known as piles when swollen or inflamed (1). In their physiological state, they act as cushions composed of arterio-venous channels and connective tissue that aid the passage of stool. The symptoms of pathological hemorrhoids depend on the type present. Internal hemorrhoids usually present with painless rectal bleeding, while

external hemorrhoids present with pain in the area of the anus.

External hemorrhoids are those that occur outside the anal verge (the distal end of the anal canal). Specifically, they are varicosities of the veins draining the territory of the inferior rectal arteries, which are branches of the internal pudendal artery. They are sometimes painful, and often accompanied by swelling and irritation. Itching, often thought to be a symptom of external hemorrhoids, is more commonly due to skin irritation. External hemorrhoids are prone to thrombosis: They become thrombosed when the vein ruptures and/or a blood clot develop (6).

Prolapsed hemorrhoids are internal hemorrhoids that are so distended that they are pushed outside the anus. If the anal sphincter muscle goes into spasm and traps a prolapsed hemorrhoid outside the anal opening, the supply of blood is cut off, and the hemorrhoid becomes a strangulated hemorrhoid.

Internal hemorrhoids can be further graded by the degree of prolapses (1, 7).

Stage I: No prolapsed.

Stage II: Prolapsed upon defecation but spontaneously reduced.

Stage III: Prolapsed upon defecation and must be manually reduced.

Stage IV: Prolapsed and cannot be manually reduced

Hemorrhoids usually present with itching, rectal pain, or rectal bleeding (8). In most cases, symptoms will resolve within a few days. External hemorrhoids are painful while internal hemorrhoids usually are not unless they become thrombosed or necrotic (1, 8). The most common symptom of internal hemorrhoids is bright red blood covering the stool, a condition known as hematochezia, on toilet paper, or in the toilet bowel (6). They may protrude through the anus. Symptoms of external hemorrhoids include painful swelling or lump around the anus. A number of factors may lead to the formation of hemorrhoids including irregular bowel habits (constipation or diarrhea), lack of exercise, nutrition (low-fiber diet), increased intra-abdominal pressure (prolonged straining), pregnancy, genetics, absence of valves within the hemorrhoidal veins, and aging (1). Other factors that can increase the rectal vein pressure resulting in hemorrhoids include obesity and sitting for long periods of time (9, 10).

Surgical treatment is rarely needed, as symptoms usually resolve post delivery (1). The best way to prevent hemorrhoids is to keep stools soft so they pass easily, thus decreasing pressure and straining, and to empty bowels as soon as possible after the urge occurs. Exercise, including walking, and increased fiber in the diet help reduce constipation and straining by producing stools that are softer and easier to pass (11). Spending less time attempting to defecate and avoiding reading while on the toilet have been recommended (1).

The best way for diagnosis is visual examination of the anus and surrounding area may be able to diagnose external or prolapsed hemorrhoids. A rectal exam may be performed to detect possible rectal tumors, polyps, an enlarged prostate, or abscesses. This examination may not be possible without appropriate sedation due to pain. (1)Visual confirmation of internal hemorrhoids is via anoscopy.

Conservative measures typically consist of increasing dietary fiber, oral fluids to maintain hydration, non-steroidal anti-inflammatory drugs (NSAID), sits baths, and rest (1). Increased fiber intake has been shown to improve outcomes (10) and may be achieved by dietary alterations or the consumption of fiber supplements (1, 12). A number of surgical techniques may be used if conservative measures fail. All are associated with some degree of complications including: Urinary retention, due to the close proximity to the rectum of the nerves that supply the bladder; bleeding; infection; and anal strictures (1). So, this study was to evaluate the effect of conservative measures in improving hemorrhoid stages and relieving symptoms among patients with hemorrhoid without surgery through provided guidelines and instructions for patients about the conservative measures. These conservative measures include exercise for hemorrhoids which is one of the key preventive measures to avoid hemorrhoids. As well, there were instructions related to diet and hygienic care (12).

This disease is commoner among males and females. One of the major risk factors that predisposes to the development of hemorrhoids is lack of exercise. The chances that you could develop hemorrhoids are directly correlated to the amount of exercise you get. Healthy improved physical activity also helps in the effective and fast treatment of hemorrhoids, it is also vital because important nutrients needed by the different parts of the body including the anus are transported by efficient blood circulation. Exercise improves blood circulation to all the parts of the body making the delivery of nutrients to all the parts of the body more efficient and smoother. These nutrients make the rectal blood vessels and veins stronger and they also reduce inflammation in the anal region.

There are many types of exercise that includes; Exercise that improves muscle tone is very helpful in preventing hemorrhoids. Toned muscles mean firm yet flexible muscles. There are many exercises that help to improve muscle tone as: Swimming- running, walking, and aerobics; these activities are the best muscle toners. All of these kinds of exercises work on the abdominal area. Sphincter exercise is another wise way to prevent the development of hemorrhoids. Staying

active reduces pressure on veins. Pressure on veins is usually accumulated during long periods of standing or sitting. Exercise helps you lose weight and indirectly aims at one of the major reasons for getting hemorrhoids is overweight. When involved in active physical activity, one should take as much water as possible to help in the pursuit in faster and efficient passing of food through the intestines (5).

The researcher taught patients Kegel exercise for hemorrhoids: that includes standing erect; gradually rise on the toes, at the same time, raising the hands slowly from the side, arms extended, until they are high above the head, then bend forward as if trying to touch the floor with the finger's tips. This exercise will be done several times each day and very slowly. It will gradually lift the sphincter muscle and thus remedy the hemorrhoid condition. Each patient in the study group (1) did this for two or three minutes in the morning and evening (13). Kegel exercise was developed to strengthen the muscles of the pelvic floor. The muscles on the pelvic floor are instrumental in providing strength to the bladder, bowel, and vaginal area. Exercises are also beneficial in strengthening the muscles in the rectum and are designed to be used by both men and women.

It works the pelvic floor muscles known as muscle or pubococcygeal muscle which extends from your pubic area to the base of your spinal area. This type of exercise for hemorrhoid patients is performed differently in women and men. It is an effective way to improve blood circulation which is important to the anal veins. Since the exercises help to strengthen the muscles in your anal region this can prevent an existing hemorrhoid condition from getting worse as well as prevent hemorrhoid condition from returning in the future. This type of exercise for hemorrhoid patients can also relieve urine leakage in women and prostate pain in men, (5).

In addition to the previous the researcher provided the following guidelines for the patients.

(1) Exercises that should be avoided: These include: Biking: which increases the pressure around the anal region thus worsening and predisposing to the development of hemorrhoids. Weight lifting: It is not recommended to practice weight-lifting as well. This exercise puts strain on the lower back and can worsen the hemorrhoids.

(2) Increase fiber within the diet because lack of fiber in one's diet is not the only contributing factor that brings about hemorrhoids, being in a certain state or condition a cause for the inner rectal muscles to weaken and become susceptible to prolapsed veins and muscles.

(3) Don't lift heavy objects because certain lift activities that are part of one's occupation or the body weight carried, can make abdominal muscles involuntarily push weak rectal muscles. Subsequently, this will result to prolapsed muscles or muscles that were pushed out of the anal opening, (4).

Eating and preparing the balanced meal properly because dealing with hard to move bowels can aggravate the prolapsed hemorrhoids while adding more fruits and vegetables to diet and taking more liquids, particularly water is an alternative hemorrhoid treatment. All foods taken in by the body will be broken down during metabolism. Some will be absorbed as nutrients for body cells, with the help of the enzymes that were extracted. If one fails to replenish body with the necessary enzymes, the digestive system will then draw some of it from the body's supply. The body will draw the enzyme it needs from the blood, muscles, nerves and glands. Now this is the reason why some people have weak rectal muscles prone to internal hemorrhoids. The food particularly the vegetables one eats, are the largest sources of enzymes. The best way to ensure that the latter will not be lost is not to overcook the vegetables, because too much heat destroys the enzymes. To make it effective as part of alternative hemorrhoid treatment is eating fruits that are fresh and vegetables that are raw or half-cooked. (5) Correcting certain sanitary practices as avoiding using dry toilet paper in cleaning up the anus as the roughness of the paper tends to scratch or irritate weak rectal nerves and muscles. It is important that the tissue is made soft and moist, by dampening it with small amount of water. (6) In addition, exercising regularly was recommended by Hopkinson (14).

Aim of the study.

Evaluate the effect of conservative measures in improving hemorrhoid stages and relieving symptoms among patients with hemorrhoid.

Significance of the study:-

Hemorrhoid is considered the biggest problem all over the world that hinders patients, ability to live normally and work effectively. This is appearing in the following estimation all over the world in general and specifically in Egypt. There are 10.4 million people in the USA 1983-87 as reported by the digestive disease in the United States (15). As well, the same journal stated that there were 1,000,000 per year, 83,333 per month, 19,230 per week, 2,739 per day, 114 per hour, 1 per minute, and 0 per second. Over two thirds of all healthy people reporting for physical examinations have hemorrhoids (16). As well in 120,000 women self-reported having hemorrhoids (17, 18). In Egypt Nakeeb et al; (4) reported that hemorrhoid is considered one of the most frequent diseases of the anal region with high prevalence (nearly 50% of

proctological visits in a colorectal unit) involving any age and affecting both males and females equally.

Hypothesis:

1- Patients who received conservative measures (diet & hygienic care) will be having better improvement in hemorrhoid stage and symptom scores post intervention and one month later as compared to prior intervention.

2- Patients who received conservative measures and Kegel exercise will be having better improvement in hemorrhoid stage and symptom scores post intervention and one month later as compared to prior intervention.

2. Subjects and Methods:

Design:

A quasi experimental research design was used with pre-post and follow up assessment of outcome.

Setting:

The study was conducted at the outpatient surgery clinics in El-Naser Insurance Hospitals at Hellwan City, El-Demerdash Hospital affiliated to Ain Shams University; and Ahmed Maher Educational Hospital, in Cairo

Subjects:

This study was carried out on a consecutive sample of 90 adults recruited from the study settings who complained of hemorrhoid symptoms and, having stage one or two of hemorrhoid. Patients who in advanced stage of hemorrhoid, having liver disease, pregnant women, or having other diseases of the anus and rectum that may cause similar symptoms such as polyps, cancer, and diseases of the skin were excluded from the study.

Tools and technique of data collection:

Four tools were used for data collection, namely: An interview form, hemorrhoid symptom's assessment sheet, hemorrhoid stages, assessment sheet and observational checklist about kegel exercise for hemorrhoids.

Tool (I): Interview Form: It was constructed and implemented by the researchers. It consisted of two parts; 1) It covers patient's socio-demographic characteristics, e.g. age, sex, level of education, marital status, family history, and duration of disease, and 2) It includes information about life style habit, which includes standing for long time, tension, personal hygiene, dietary habits, bowel habits, applying exercises, and therapeutic habit.

Tool (II): Hemorrhoid Stages Assessment Sheet. It was constructed and implemented by the researchers based on extensive literature review; it contains multiple choice questions in which the researchers asked the patients to determine the stage of his/ her hemorrhoid by selecting the suitable symptoms from the following. (1) Hemorrhoids that bleed but not prolapsed. (2) Hemorrhoids that prolapsed and retracted on their own (with or without bleeding). (3) Hemorrhoids that prolapsed but must be pushed back in by a finger. (4) Hemorrhoids that prolapsed and cannot be pushed back in. If patient selected number (1), it means stage one, if patient selected number (2) it means stage two; if patient selected number (3), it means stage three; and if patient selected number (4) it means stage four.

Tool (III): Hemorrhoid asymptote's assessment sheet: Which includes: 1) blood during bowel movement. Researchers asked patient about presence of blood in the soft stool, without straining (that means severe case), presence of blood in the dry stool (that means moderate) and presence of blood in the dry stool with straining (it means mild). 2) Protrusion in the course of bowel movements; protruded without return means sever, protruded with return manually means moderate, and protruded with return in means mild, 3) Itching in the anal are*a* was also classified to sever, moderate and mild, 4) Pain during bowel movements; sensitive or painful lump (s) on the anus, to assess severity of pain the researchers used visual analog scale (VAS). It is an instrument used to measure the amount of pain patient feels, according to Journal of Clinical Nursing, the visual analog scale of pain is usually a 100 mm-long horizontal line, which may contain word descriptors at each end. The patient represents his/ her perception of the amount of pain patient feels by marking a horizontal line between two points. The visual analog scale score is measured in millimeters from the left hand end of the line to the point indicated by the patient, the range between 8-10 means severe pain, 5-7 moderate and from 1-4 means mild (19). Each symptom has three alternative selections (1) sever (2) moderate and (3) mild.

Tool (IV): Observational Checklist about Kegel Exercise for Hemorrhoids: It includes: Standing erect; gradually rise on the toes, at the same time, raising the hands slowly from the side, arms extended, until they are high above the head then bend forward as if trying to touch the floor with the finger tips. This is done several times each day, very slowly. The alternative choices were done (scored 1) or not done (scored 0) with maximum score (5 and minimum (0) the satisfactory score at ≥ 4.

Preparatory phase:

A review of the current and past available literature covering the various aspects of the problem

was done using textbooks, articles, magazines, and internet search. This was necessary for the researchers to get acquainted with, and oriented about aspects of the research problem, as well as, to assist in the development of the data collection tools and the preparation of pictures and pamphlet.

Content validity:

Content validity of the tools was ascertained by a panel of five experts in Medical-Surgical Nursing who revised the tools for clarity, relevance, applicability, comprehensiveness, and ease for implementation. According to their opinion, minor modifications were applied

Pilot study:

A pilot study was conducted on 10 hemorrhoid adult patients selected from the selected study settings to check and ensure the clarity, applicability, and relevance of the tools, to identify any difficulties with their application, and to estimate the time needed for the completion of the tools. Modifications on the tools were done according to the pilot results to reach to the finalized form. Subjects who shared in the pilot study were not included in the main study sample.

Procedure:

This is a quasi-experimental study, in a pre-post test method, conducted at the out patient surgery clinics in El-Naser Insurance Hospitals at Hellwan City, El-Demerdash Hospital affiliated to Ain Shams University and Ahmed Maher Educational Hospital, in Cairo Egypt. The entire sample age ranged between 20-60 years, was complaining from stage 1 or 2 of hemorrhoid and selected from the out-patient surgery clinics in the period from the beginning of January 2010- to the beginning of January 2011. Ninety patients were randomly assigned to three groups, 30 in each two study groups and one control group. Following obtaining the approval from the directors of the outpatient surgery clinics, and oral consent from the patients willing to participate in this study, these were assigned as group (1), group (2) and control group one after the other. Then researchers started the procedure that was conducted in four phases: assessment, planning, implementation, and evaluation.

Pre- assessment phase:

The aim of this phase was to collect patient's data as well as to identify individualized learning needs in order to design the suitable instructions and conservative management. This phase is concerned with assessment of the patients in the three groups using assessment tool (1) that assess patient's socio-demographic data, and patient's information about hemorrhoid (causes, risk factors, life style habit, sanitary hygiene and dietary habit. Tool (2) assesses stage of the hemorrhoid and tool (3) includes sign and symptoms of the hemorrhoid. For group (1) observational checklist tool (4) was used to assess patients' information about kegel exercise.

Planning phase:

An individualized nursing intervention was developed based on the findings of the assessment, and in the light of related literature. There were two types of intervention provided for two equal groups of cases: one was designed to include information about hemorrhoid like definition of hemorrhoid, its causes, signs and symptoms, and effects on body system. It also covered the stages of the hemorrhoid. The issue of nutrition and hygienic care was covered as the most suitable diet for hemorrhoid patient, its type, time, and suitable amount, as; eating fruits that are fresh and vegetables that are raw or half-cooked. It also stressed on the importance of hygienic care as correcting certain sanitary practices which include, avoid using dry toilet paper in cleaning up the anus as the roughness of the paper tends to scratch or irritate weak rectal nerves and muscles. It is important that the tissue to be soft and moist, by dampening it with small amount of water.

The researcher also stressed on certain life habits that should be avoided as not lifting heavy objects, dietary management consisting of adequate fluid and fiber intake to relieve constipation and eliminate straining at defecation as the primary noninvasive treatment for all symptomatic hemorrhoids, and stool softeners may be added if necessary. Sitz baths are useful for relieving anal pain and maintaining anal hygiene. Exercise was recommended, as well the researchers instructed patients to avoid reading on the commode that will help in resolving symptoms.

For study group (1), the same intervention was provided in addition to practical part about kegel exercise for hemorrhoid, that include the technique of exercise and haw to do it, suitable time, duration, when to start and when to end . The study also covered the importance of compliance and regular follow-up with physician, and the signs and symptoms that need rapid consultation as sever bleeding or pain. An illustrated handout (pamphlet) was also prepared by the researchers to be given to participants in study groups (1, 2).

Implementation phase:

During this phase, the developed conservative measures were provided to hemorrhoid patients according to individualized needs. Diet and instructions about hygienic care instructions were

provided to each patient in the group (1) and group (2) to follow them at home. Face-to-face teaching method was used to achieve individualized instructions as well as to solve personal problems. This was done three times per week as scheduled with the patients for ten consecutive weeks. Each session lasted 30-45 minutes. The researcher used illustrations, examples of objects, and pamphlet for the study groups (1 & 2). For the study group (1), researchers added practical time that also varied according to patient's understanding and mastering of the given skill. It ranged from 20-25 minutes. In that time, the researchers act as a role model as well as using pictures to teach patients kegel exercise steps. Also, the researchers used pictures to show patients haw to do the exercise.

Evaluation phase:

Each patient was evaluated three times during the study period utilizing the study tools. The first evaluation was at the pre-assessment phase; the second evaluation was ten weeks after implementation of the program, and the third evaluation was done one month after the second evaluation. The same data collection tools were used in the three evaluations

Administrative Design and Ethical Considerations:

The study was conducted over a period of twelve months from the beginning of January 2010- till the beginning of January 2011.Ninety patients were randomly assigned to three groups, 30-patients in each group of the two study groups and one control group. An official approval was obtained from the responsible authorities after explaining the aim of the study. Patient's informed verbal consent to participate in the study was obtained after explaining its purpose and procedures. Patients were informed about their rights to refuse or withdraw at any time without giving any reason. They were also assured about confidentiality of the information obtained. The study maneuvers could not cause any harmful effect on participants. Professional help was provided to them as needed.

Statistical methods:

The statistical analysis included percentage, mean, and standard deviation, and analysis of variance were also performed, using the statistical package for social Science (SPSS) software package. Descriptive data were reported as mean and standard deviation (SD). The collected data were tabulated and statistically analyzed to evaluate the differences between the pre and post intervention of the conservative measures and in the follow-up period (after one month) and to elicit some relations. Approach was applied using chi-square test. Statistical significance was set at p-value < 0.05.

3. Results:

Table (1) shows socio-demographic and medical history of patients, it reveals that, the majority of the sample was females (83.3%, 66.7 % & 70.0 % in the studied groups' (1, 2) and control group respectively. Their mean age was around fifty years (49.9±14.3). The highest percentages were for secondary or higher education (53.3%, 53.3%, & 50.0 %,) in the studied groups (1, 2) and control group respectively. In relation to marital status; (60.0 %, 50.0% and 80.0 %) were married in the studied groups (1, 2) and control group respectively, with family history of disease (70.0 %, 76.7% and 80%) in the study groups (1, 2) and control group respectively. Meanwhile duration of illness was more than 8 months for (53.3%, 50.0% and 73.3%) in the studied groups (1, 2) and control group respectively.

As table (2) reveals, the majority of the patients 60.0%, 56.7% and 80.0% was standing for long period in the studied groups (1 , 2) and control group respectively, while, Patients having a history of stress were 70% and 60% in the studied groups 1 and 2. More than quarter (26.6%) applied exercise in study group 1. Meanwhile the majority of the sample had bad personal hygiene in all studied groups (90.0% in study group (1), 83.3% in study group (2), & 86.7% in control group). The same table also shows that, bad dietary habits and bowel habits were applied equally in all patients groups (66.7% in study group (1), 70.0% in study group (2) respectively, and 63.3% in control group). Relatively high percentages of the patients were using medication as patient's need not as doctor's order.

Table (3) shows statistically significant improvements regarding progress of hemorrhoid stages. There were improvements in the stage two to stage one after the implementation of the conservative measures and Kegel exercise in study groups one and two. On the other hand there were deteriorations in hemorrhoid stages from stage one to stages three and four. As well there were statistically significant differences between the study group (1) and study group (2) which mean that patients who received conservative measures and Kegel exercises improved than those who received conservative measures only. There were highly statistically significant differences between the study group (1) and control group, and the study group (2) and control group with p value < 0.000 in post phase. However in the follow up phase there were highly statistically significant difference between studies group one, two and control group with p value < 0.002. Patients in the study sample have also demonstrated statistically significant improvements regarding the severity of their symptoms throughout the study phases. As Table (4) shows, there were improvements in the frequency of the bleeding,

protrusion, itching pain and sensitivity after the implementation of conservative measures and Kegel exercises in study group one and study group two throughout the study phases with p value < 0.000. The same table shows deterioration in some of the hemorrhoid symptoms among patients in the control group in the post intervention and follow up stages as compared to pre-intervention stage. 20.0% of the patients having severe blood during bowel movement increased to become 63.3% and 80.0% in the post and follow up stages respectively. As well 73.3% having severe protrusion increased to become 76.7% and 86.7% of patients who had moderate protrusion in the post and follow up stage respectively (X2 = 18.9, at p <0.000).

Table (5) displays the progress in the hemorrhoid symptoms among patients in the studied and control groups. There were statistically significant improvements in all symptoms in study group (1) and study group (2) except in bright red blood in the stool and sensitivity, in the post intervention phase. However, in follow up phase there was statistically significant improvements in all symptoms in study group (1) and study group (2) except in bright red blood in the stool, pain and sensitivity,. All these mean that Kegel exercises affected in improved anal protrusion and itching. As well, statistically significant improvements were detected in all patient symptoms between the studied group (1) and the control group, in addition between the studied group (2) and the control group with p- value < 0.000.

Table (1): Socio-Demographic Characteristics, (n= 30 in each group)

Sociodemographic data	Study group (1)		Study group (2)		Control group	
	NO	%	NO	%	NO	%
Age						
20- <40	9	30.0	9	30.0	9	30.0
40- <60	19	63.3	18	60.0	17	56.7
60+	2	6.7	3	10.0	4	13.3
Mean ± SD	(49.9±14.3)					
Gender						
Female	25	83.3	20	66.7	21	70.0
Male	5	16.7	10	33.3	9	30.0
Education						
Illiterate	0	0.0	4	13.3	0	0.0
Read and Write	0	0.0	0	0.0	0	0.0
Primary	0	0.0	0	0.0	0	0.0
Secondary	16	53.3	10	33.3	15	50.0
High	14	46.7	16	53.3	15	50.0
Marital status						
Single	6	20.0	12	40.0	6	20.0
Married	18	60.0	15	50.0	24	80.0
Widow	6	20.0	3	10.0	0	0.0
Divorced	0	0.0	0	0.0	0	0.0
Family history of disease						
Yes	21	70.	23	76.7	24	80.0
No	9	30.0	7	23.3	6	20.0
Duration of disease (in month)						
2-<5	6	20.0	7	23.3	0	0.0
5-<8	8	26.7	8	26.7	8	26.7
8+	16	53.3	15	50.0	22	73.3

Study group (1): Diet & hygienic measures and Kegel exercise Study group (2): Diet & hygienic measures

Table (2) Lifestyle habits among patients under study sample (n=30 in each group)

Life Style Habits	Study Group (1)		Study Group (2)		Control Group	
	No	%	No	%	No	%
Presence of long standing						
Yes	18	60.0	17	56.7	24	80.0
No	12	40.0	13	43.3	6	20.0
Stress						
Yes	21	70.0	18	60.0	17	56.7
No	9	30.0	12	40.0	13	43.3
Applied exercises						
Yes	8	26.6	6	20.0	7	23.3
No	22	73.4	24	80.0	23	76.7
Personal hygiene						
Good	3	10.0	5	16.7	4	13.3
Bad	27	90.0	25	83.3	26	86.7
Dietary habit						
Good	10	33.3	9	30	11	36.7
Bad	20	66.7	21	70	19	63.3
Bowel habits						
Good	10	33.3	9	30	11	36.7
Bad	20	66.7	21	70	19	63.3
Therapeutic habit						
As doctor order	7	23.3	10	33.3	8	26.6
As patient need	23	76.7	20	66.7	22	73.4

Study group (1): Diet & hygienic measures and Kegel exercise Study group (2): Diet & hygienic measures

Table (3): Progress in the hemorrhoid stages among patients in the studied and control groups throughout the study phases (n= 30 in each group)

Study Phases	Study group (1)		Study group (2)		Control group		T test					
	No	%	No	%	No	%	G 1& G 2		G 1& Control G		G2 & Control G	
							T	P	T	P	T	P
Pre phase												
Stage 1	10	33.3	5	16.7	9	20.0	8.1	0.000**	1.2	0.260	4.2	0.004**
Stage 2	20	66.7	24	83.3	21	70.0	9.0	0.000**	0.1	0.952	7.8	0.000**
Stage 3	0	0.0	0	0.0	0	0.0	3.9	0.001**	1.3	0.235	5.3	0.000**
Stage 4	0	0.0	0	0.0	0	0.0	NA	NA	NA	NA	NA	NA
Post phase												
Stage 1	27	90.0	9	20.0	4	13.3	6.7	0.000**	13.2	0.000**	7.4	0.000**
Stage 2	3	10.0	21	70.0	21	70.0	3.9	0.003**	18.8	0.000**	104.2	0.000**
Stage 3	0	0.0	0	0.0	5	16.7	NA	NA	NA	NA	7.5	0.000**
Stage 4	0	0.0	0	0.0	0	0.0	NA	NA	NA	NA	NA	NA
Follow up												
Stage 1	22	73.3	14	46.7	0	0.0	1.0	0.338	NA	NA	NA	NA
Stage 2	8	26.7	16	53.3	13	43.3	0.7	0.513	4.3	0.002**	3.6	0.002**
Stage 3	0	0.0	0	0.0	14	46.7	5.7	0.0**	9.8	0.000**	6.8	0.000**
Stage 4	0	0.0	0	0.0	3	10.0	NA	NA	39.1	0.000**	NA	NA

NA: No association ** highly significant Study group (1): Diet & hygienic measures and Kegel exercise
Study group (2): Diet & hygienic measures

Table (4): Effect of Conservative Measures on the Severity of Hemorrhoid Symptoms among Patients in the Studied and Control Groups throughout Study Phases

Variables	Pre-intervention						Post -intervention						Follow- up					
	Severe		Moderate		Mild		Severe		Moderate		Mild		Severe		Moderate		Mild	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Study group(1)																		
Bright red blood in stool	6	20.0	18	60.0	6	20.0	0	0.0	16	53.3	14	46.7	4	13.3	12	40.0	14	46.7
Protrusion	7	23.3	19	63.3	4	13.3	0	0.0	0	0.0	30	100	5	16.7	3	10.0	22	73.3
Itching	6	20.0	18	60.0	6	20.0	0	0.0	27	90	3	10	0	0.0	6	20.0	24	80.0
Pain	23	76.7	7	23.3	0	0.0	0	0.0	0	0.0	14	46.7	2	6.7	11	40.0	16	53.3
Sensitivity	9	30.0	17	56.7	4	13.3	0	0.0	0	0.0	0	0.0	6	20.0	5	16.7	19	63.3
	Pre & post (X^2)= 46.4 p < 0.000**						Post & follow (X^2) = 46.1 P < 0.000**						Pre & follow (X^2) = 43.8 P < 0.000**					
Study group (2)																		
Bright red blood in stool	15	50.0	15	50.0	0	0.0	0	0.0	11	36.7	19	63.3	0	0.0	6	20.0	24	80.0
Protrusion	22	73.3	8	26.7	0	0.0	0	0.0	23	76.7	7	23.3	3	10.0	26	86.7	1	3.3
Itching	29	96.7	1	3.3	0	0.0	4	13.3	8	26.7	18	60.0	8	26.7	11	36.7	11	36.7
Pain	17	56.7	13	43.3	0	0.0	0	0.0	7	23.3	23	76.6	3	10.0	11	36.7	16	53.3
Sensitivity	9	30.0	21	0.0	0	0.0	0	0.0	13	42.3	17	56.7	0	0.0	11	36.7	19	63.3
	Pre & post (X^2) = 26.0 P < 0.000**						**Post & follow (X^2) = 28.9 p < 0.000****						**Pre & follow (X^2) = 9.3 P < 0.026***					
Control group																		
Bright red blood in stool	6	20.0	18	60.0	6	20.0	19	63.3	9	30.0	2	6.7	24	80.0	6	20.0	0	0.0
Protrusion	22	73.3	8	26.7	0	0.0	0	0.0	23	76.7	7	23.3	3	10.0	26	86.7	1	3.3
Itching	29	96.7	1	3.3	0	0.0	4	13.3	8	26.7	18	60.0	8	26.7	11	36.7	11	36.7
Pain	17	56.7	13	43.3	0	0.0	0	0.0	7	23.3	23	76.6	3	10.0	11	36.7	16	53.3
Sensitive	9	30.0	21	0.0	0	0.0	0	0.0	13	42.3	17	56.7	0	0.0	11	36.7	19	63.3
	Pre & post (X^2) = 18.9 P < 0.000**						**Post & follow (X^2) = 23.3 P < 0.000****						**Pre & follow (X^2) NA**					

NA: No association ** highly significant

Study group (1): Diet & hygienic measures and Kegel exercise Study group (2): Diet & hygienic measures

Table 5: Comparison between studied and control groups regarding hemorrhoid symptoms through the study phases (n = 30 in each group)

Hemorrhoid Symptoms	Study group (1) Mean ± SD		Study group (2) Mean ± SD		Control group Mean± SD		T- test G 1 & G 2		G 1 &Control G		G2 & Control G	
							T	P	T	P	T	P
Pre phase Bright red blood in stool	1.8	±0.64	1.5	±0.50	2.1	±0.85	2.2	0.031*	1.2	0.243	3.1	0.003**
Protrusion	2.6	±0.84	1.3	±0.44	2.6	±0.84	7.1	0.000**	0.0	1.000	7.1	0.000**
Itching	1.9	±0.83	1.0	±0.18	2.4	±1.28	5.0	0.000**	1.9	0.066	5.2	0.000**
Pain	1.2	±0.42	1.4	±0.50	1.2	±0.42	1.7	0.104	0.0	1.000	1.7	0.104*
Sensitivity	2.3	±0.46	1.7	±0.46	2.4	±0.71	5.0	0.000**	0.4	0.672	4.2	0.000**
Post phase Bright red blood in stool	3.5	±0.56	1.3	±0.47	3.6	±0.62	0.6	0.521	15.4	0.000**	15.0	0.000**
Protrusion	3.6	±0.50	2.2	±0.42	1.9	±0.62	10.9	0.000**	11.4	0.000**	2.6	0.011*
Itching	3.5	±0.67	1.5	±0.62	2.5	±0.72	5.7	0.000**	11.8	0.000**	5.5	0.000**
Pain	3.5	±0.50	1.0	±0.18	3.0	±0.68	3.4	0.001**	17.4	0.000**	11.3	0.000**
Sensitivity	3.6	±0.49	1.8	±0.67	3.3	±0.86	1.6	0.110	11.5	0.000**	7.5	0.000**
Follow up phase												
Bright red blood in stool	3.47	±0.57	1.4	±0.68	3.2	±0.76	1.5	0.131	12.4	0.000**	9.5	0.000**
Protrusion	2.9	±1.04	1.9	±0.36	1.4	±0.57	4.4	0.000**	6.3	0.000**	4.0	0.000**
Itching	3.2	±0.8	1.3	±0.48	2.1	±0.80	5.4	0.000**	10.7	0.000**	4.4	0.000**
Pain	2.7	±0.76	1.2	±0.43	2.7	±0.95	0.0	1.000	8.5	0.000**	6.9	0.000**
Sensitivity	1.5	±0.51	3.0	±0.85	2.8	±1.18	0.5	0.617	5.4	0.000**	7.7	0.000**

* Significant ** highly significant

Study group (1): Diet & hygienic measures and Kegel exercise Study group (2): Diet & hygienic measures

G1 v s G2 (T1) G 1 v s control (T2) G2 v s cont (T3) T – Test was calculated according to mean ± SD

4. Discussion:

Only symptomatic hemorrhoids require treatment. Most patients can be treated with conservative measures alone or surgical procedure. Hemorrhoids are associated with chronic straining secondary to constipation, diarrhea, tenesmus, or long periods trying to defecate, and are common during pregnancy and childbirth. (7) So, this conservative management was concerned with lifestyle changes as minimizing prolonged straining during bowel movements, and other measures which are thought to contribute to the development of hemorrhoids. Hemorrhoid Prevalence varies from 4.4% in the general population to 36.4% in general practice (5) the annual rate of office visits for hemorrhoids is 12 for every 1000 patients in the United States (6); its prevalence is similar between the sexes and increases with age until the seventh decade (7, 8) only a third of patients with symptomatic is hemorrhoids seek medical help (8)

In Egypt, the prevalence rate of hemorrhoid nearly 50% of proctological visits in a colorectal unit involving any age and affecting both males and females equally as reported by Nakeeb, A., (4). The researchers observed that a large proportion of patients in the out patient clinics of surgery within the studied hospitals were occupied by hemorrhoid patients who are complaining of severe hemorrhoid symptoms, in addition to advanced stages of hemorrhoid; and needed

care and knowledge about hemorrhoid, to care for themselves, hemorrhoid complications and life style habit that needed to be changed. Those in addition to the financial burden on patients, their families, and the hospital budget, with adequate attention to give those patients adequate conservative measures that constitute knowledge about hygienic and sanitary care, suitable diet and effective exercises, these problems could be eliminated. The aim of this study was to evaluate the effect of conservative measures in improving hemorrhoid stages and relieving symptoms among patients with hemorrhoid.

Results of the current study cleared that, most of the affected patients were females in the two studied and control groups, which could be as a result of multiple pregnancies and labors, that comes in with Madoff, & Fleshman, **(20),** which reported that, females are more affected than men, because, female's hemorrhoids may result, besides other reasons, due to pregnancy. Some women suffer from hemorrhoid during their first pregnancy and those who have it once and been pregnant are more likely to get it during their next pregnancy. Furthermore, women may also get hemorrhoids during the second stage of labor i.e., during childbirth. Results indicated also that the presence of family history of disease among majority of the patients, accordance with Gaj, & Trecca, **(21)**.Who 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.

As well, the results of this study indicated that, majority of the sample in the two studied and control groups aged between 40≤60 years, had a history of standing for long period and characterized by stress, that indicated age and hemorrhoids are something that will go hand in hand, as well the bad effect of standing for long periods and stress this finding comes with Robson, **(22),** who reported that, there are several reasons for getting hemorrhoid, one of the most common reason for them would be age because age weakens the body and this can include the muscles around the anus. Adding to that, a very common reason for hemorrhoid today, is the stress that you may have been endured over the years. As well, **(23)** Frank and Jackson reported that, a common cause of hemorrhoids is simply the standing position, in which all the blood above the rectum exerts pressure on the rectal and anal areas.

Concerning stages of hemorrhoid, results in this study indicated that, there were progresses in the hemorrhoid stages among patients in the studies groups (1, 2), in comparison to the control group through phases of the study, that indicated, the effectiveness of the provided conservative measures, (which included hygienic care, suitable diet and sits bath that are useful for relieving anal pain and maintaining anal hygiene, as well kegel exercise, in addition simply instructions for patients to avoid reading on the commode. All these, come with Coello, and Castillejo **(24)**, whom reported that, the most benefit measures in case of 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 are beneficial, and these measures are usually recommended.

In relation to the effect of Kegel exercise in the hemorrhoid stages among the two studied group results indicated that, there are significant differences between patients in the study group (1) as compared to the study group (2) regarding hemorrhoid's stages (1,2) in the post intervention phase with p- value 0.000 ; 0.003 respectively. This comes incongruent with Wayne, (**25)** who reported that, those difficult bowel movements will cause hemorrhoids and exacerbate symptoms of hemorrhoids that already exist. A moderate session of aerobic exercise lasting 20 to 30 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, standing on the toes while bending over. Theoretically, it will strengthen the anal sphincter to help prevent and alleviate hemorrhoids. These exercises boast a wealth of anecdotal support.

Regarding effect of conservative measures on the severity of hemorrhoid symptoms among patients in the study sample, throughout the study phases, results indicated that, there was a significant improvement in the severity of hemorrhoid symptoms among patients in the two studied groups through phases of the study, that indicated 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, exercise and avoid reading on the commode for patients in the studied groups, considering fiber intake this comes on line with, Alonso-Coello, Guyatt , Heels-Ansdell , et al **(26)** who identified that, instead of causing hemorrhoids, eating fiber helps to prevent hemorrhoids. A low-fiber diet is associated with increased risk for developing hemorrhoids. This is because fiber intake helps making a bowel movement easier, not more difficult. Those who experience trouble with bowel movements like constipation or

irregular stools are advised to take or eat fiber to make bowel movements easier.

As well Clinic,**(27).**Reported that, 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. Keeping stool soft and easy to pass decreases the symptoms associated with hemorrhoids. Increasing fluid intake to at least eight glasses of water each day helps soften the stool. As well, she said, sitting in a shallow tub of warm water helps relieve the symptoms of hemorrhoids.

Regarding the effect of Kegel exercise on the severity of hemorrhoid's symptoms, results indicated that, there were a highly statistically significant differences among patients in the studied groups (1, 2) regarding protrusion, itching and pain with p- value = 0.000** for each. This indicated the beneficial effect of the exercise that provided to the patients in the study group (1) that comes incongruent with Clinic, (27). 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.

Conclusion and Recommendation

It is concluded that conservative measures have highly statistically significant positive effect in improving the hemorrhoid stages and symptoms of patients who used diet and followed hygienic care or Kegel exercise. Therefore, it is recommended to generalize such conservative measures in hospitals for teaching hemorrhoid patient to improve personal hygiene, change dietary habits, change bowel habits, and apply exercises. This would improve hemorrhoid stages and symptoms, and reduce the incidence of surgery. It is also important that all health care team members give more emphasis to their role as health educators. The developed illustrated pamphlet should be made available and distributed to each hemorrhoid, patient admitted to hospitals. More research is needed to investigate the long-term effect of such conservative measures.

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