Evidence Based Nursing Intervention: its Effect on Relieving Women's Uterine Prolapse Symptoms and Degree

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Abstract: Uterine prolapse is the most frequently reported cause of poor health among women of reproductive age and postmenopausal. It is known to cause physical and psychosocial problems affecting the quality of women life. The current study aimed to evaluate the effect of the evidence-based nursing intervention on relieving uterine prolapse symptoms and degree. Design: An intervention research design (time series) was adopted. A purposive sampling technique was used to recruit 40 women at gynaecological outpatient and family planning clinics in El-Nabawy El Mohandes Hospital, Fayoum. Four tools of data collection were used: Structured interviewing questionnaire, Pelvic organ Prolapse Quantification system, uterine prolapse associated symptoms follow up sheet and self-reported changing in symptoms and degree post-intervention tool. Results: revealed that there was a statistically significant improvement in women's knowledge regarding the uterine prolapse and its management. Also there was a highly statistical significant difference between mean score of uterine prolapse symptoms before, one and three months after the intervention that reflected upon relieving uterine prolapse degree. Conclusion: women's knowledge, the uterine prolapse symptoms and degree improved after the intervention. Recommendation: Evidence based nursing intervention as pelvic floor muscles exercise and changing lifestyle should be an integral part of the gynaecological treatment for uterine prolapse in the maternity hospitals.

Keywords: Evidence Based Nursing intervention, uterine prolapse, reproductive age.

1. INTRODUCTION

Uterine prolapse is one type of pelvic organ prolapse and it is a reproductive health condition and a common problem which can occur in women at any age group, also called descensus or procidentia. The word" prolapses" is from the Latin prolapsus, meaning a slipping forth. It defined as descent of uterus from its anatomical confines to positions within or outside the vaginal introits. [1] Uterine prolapse occurs when pelvic floor muscles and ligaments stretch and weaken, providing inadequate support for the uterus. Though the predisposing factors for weakening of muscles and ligaments are multifactorial they can be easily preventable. [2]

Uterine prolapse is a significant public health problem in most of the developing countries as it affects the physical and mental health of women. [3] This is a common condition and generally thought to aggravate over time. [4]

The exact prevalence is unknown. [5] According to 'WHO', estimation, the reproductive ill health accounts for 33% of the total disease burden in the woman globally. The global prevalence of uterine prolapse is 2-20% among women below 45 years of age, who have experienced at least one time pregnancy during her life. The incidence of uterine prolapse in U.S.A is 11.4%, Egypt 56%, Italy 5.5%, and Iran 53.6%. [6] Internationally according to Oxford Family Planning Association UK, the hospital admission for uterine prolapse is 20.4%, surgery for prolapse is 16.2%. [7]

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The pathophysiological mechanisms of prolapse have not been fully elucidated, but the risk of having prolapsed uterus increases as a woman ages and her oestrogen levels decrease**. [8]** Oestrogen is the hormone that helps keep the pelvic muscles strong. Damage to pelvic muscles and tissues during pregnancy and childbirth may also lead to prolapse. **[9]** Women who've had more than one vaginal birth or are postmenopausal are at the highest risk. Any activity that puts pressure on the pelvic muscles can increase your risk of a uterine prolapse. Other factors that can increase your risk for the condition include obesity, chronic cough and chronic constipation. **[10]**

Uterine prolapse is classified in terms of stages as follows: " The four categories of uterine prolapse are: Stage I – the uterus is in the upper half of the vagina Stage II – the uterus has descended nearly to the opening of the vagina Stage III – the uterus protrudes out of the vagina Stage IV – the uterus is completely out of the vagina. **[11]**

The symptoms associated with uterine prolapse vary depending on the degree of prolapse. In severe cases, the uterus may be easily felt or be visible to the woman, while in other cases there may be no symptoms. The most common symptoms listed as sensation of vaginal or pelvic fullness, Urinary complaints including urinary incontinence (involuntary urination), frequency, or urgency (the sensation of the immediate need to urinate), Bowel symptoms, including pain with defecation, constipation, or incontinence and sexual complaints, including pain with intercourse**. [12]**

Treatment modalities of uterine prolapse depend upon its stage. Mild or moderate cases (first- to third-degree prolapse), surgery can often be avoided. Treatment options for it include conservative treatment such as life style modification**. [13]** Lifestyle modification and pelvic floor muscle exercise are needed in improve the degree of uterine prolapse and women sexual function. Lifestyle refers to a pattern of individual practices and personal behavioural choices that are used to improve or reduce the health problem. Therefore, intervention to foster a healthy lifestyle is essential and must be adapted to tightening the pelvic floor muscles and relief the symptoms associated with the condition. **[14]**

Lifestyle modifications are focused on pelvic floor muscles exercises. Pelvic floor exercises sometimes also called Kegel exercises strengthen the pubococcygeus muscles in the lower part of the pelvis. They are particularly suitable for women who have mild bladder leakage (stress incontinence) and feelings of pressure in their abdomen. In pelvic floor exercises, the women learn how to actively tense (squeeze) the muscles in the pelvic floor. This involves various short exercises that can easily be done in everyday life, for instance three times a day. In addition, squatting and leg up exercises incorporate working on the pelvic floor muscle and strengthening the core muscles, which together will help keep the women's pelvic floor muscles tighter. **[15]** However, they are not useful if the prolapse extends to or beyond the vaginal introitus .Since that time, voluntary exercise, with variations in the programmes used, and sometimes with adjunctive interventions such as neuromuscular stimulation, vaginal weights or biofeedback has been used by physiotherapists, nurses, and medical practitioners. Evidence strongly supports use of Kegel exercises as first-line management in the treatment of urinary and fecal incontinence; however, they also have benefit in the relief of POP symptoms**. [16]**

Maternity nurse play an essential role by contributing in the prevention of prolapse through increase women awareness to prolapse and give them health education about; appropriate method for prevention through the female life cycle through maintain appropriate weight and balanced diet, avoid smoking, avoid heavy lifting, correction of anaemia and constipation, make pelvic strengthening exercises pelvic floor muscles exercises. The nurse should give the women proper management during labour, and give them health education about family planning and spacing. In additional to nurses, are well placed to identify and break down the physical and emotional barriers that impede the proper screening, diagnosis, and treatment of this common condition.**[17]**

Significance of the problem

Uterine prolapse accounts for one of the common gynaecological problems and also a common indication for hysterectomy in middle and old aged women. World Health Organization estimated that genital prolapse which is a common health problem affecting about 33% of the women between 20-59 years of age. Globally the universal prevalence of uterine prolapse is estimated to be 2-20%in women under age 20; the prevalence in Egypt was 56. 3%. **[6]** Uterine prolapse (UP) is a complex condition that is often in secret because of the shame of the condition affecting a sensitive part of the women's body. Women who suffered uterine prolapse continue to remain silent across the life because many women fear condemnation from their communities and family members especially in rural area. Even though prolapse is not considered a life threatening condition, but it has significant effects on the performance of daily

household chores, particularly in rural area, where women adopt the squatting posture for most household work, also it has a negative effects on a woman's quality of life, ranging from physical discomfort, psychological and sexual complaints to occupational and social restrictions, in additional to, sexual dysfunctions are very common among women with uterine prolapse. These women frequently report disorders of sexual desire, arousal, orgasm, and pain and these problems can affect the relationship between partners. Many women are keen to keep their uterus for a variety of reasons, including maintaining reproductive capability and the belief that the uterus, cervix, or both, play a part of their gender identity. Therefore, the concept of uterine preservation for uterine prolapse has been of interest to all women's complaining from uterine prolapse. In Egypt, there are scattered researches that are carried out to examine the effect of evidence based nursing intervention on women's complain uterine prolapse. In this context, the current study has one central goal: providing remarkable evidence to the positive effect of evidence based nursing intervention as special exercises and change in lifestyle to decrease the uterine prolapse symptoms and degree, which is cost-free and effective with no risks for women.

Aim of Study: The aim of this study is to evaluate the effect of the evidence-based nursing intervention on relieving uterine prolapse symptoms and degree. This aim achieved through the following:

1. Assess women's level of knowledge regarding uterine prolapse and its conservative management.

2. Determine the uterine prolapse symptoms and degree before the intervention.

3. Investigate the effect of evidence-based nursing intervention on reliving the symptoms and degree of uterine prolapse.

Research hypothesis:

The current study hypothesized that:

- Women complain uterine prolapse exhibits reliving the symptoms associated with the uterine prolapse after adopt the evidence based nursing intervention.

- Women complain uterine prolapse exhibits improving in the degree of uterine prolapse after adopt the evidence based nursing intervention.

2. SUBJECTS AND METHOD

Research design: An intervention (time series) study design was utilized to meet the aim of the study.

Study Setting: This study was carried out at the gynaecological outpatient and the family planning clinics in El Nabawy El Mohandes Hospital affiliated to the Ministry of Health, Fayoum, Egypt.

Subjects: A purposive sampling technique was utilized in gathering the required data. 40 women complaining from uterine prolapse in total were determined according to N= (z2 ×p ×q)/D2 at CI 95% and power 80%. The sample size based on the incidence of women complains from uterine prolapse flow rate at previous study year in the predetermined hospital. The sample selected according to the following inclusion and exclusion criteria. The inclusion criteria; married women who suffer from stage I, and II of uterine prolapse, literate, different age, women had vaginal intercourse at least ≥ once per month. The researchers excluded the pregnant women, women after abdominal surgery within 6-8 weeks, use of intrauterine device as contraceptive method, first 6 weeks follow the normal vagina delivery or the first 3 months after a caesarean section, if cancer present or suspected anywhere in the pelvis, untreated urinal infection and acute abdominal pelvic pain and/or infection.

Tools for data collection: four tools were used for data collection as the following:

I. **Structured interviewing questionnaire:-**

It designed by researchers to collect necessary data after reviewing relative literature. It was divided into three parts;

First part:-

Consisted of eight questions included socio demographic data (age, educational level, income, residence and women's occupational….etc.

Second part:-

It includes women's obstetric and gynaecological history, such as (gravida, Para, and methods of delivery….etc) in addition to the degree of prolapse.

Third part:

This includes women's knowledge regarding uterine prolapse and its management. It include 19 questions were evaluated using the following scale: (complete correct = 3, incomplete correct = 2, and incorrect = 1). So, total score ranged from 1- 57, (total incorrect score ranged between 1-19, total incomplete correct ranged between 20 – 38, and total complete correct ranged between 39- 57).

II. Pelvic Organ Prolapse Quantification system (POP–Q), adopted from; [18]

It is an objective, site–specific system for describing, quantifying, and staging pelvic support in women. It provides a standardized tool for documenting, comparing, and communicating clinical findings with proven inter observer and intra observer reliability. The POP–Q, being approved by the International Continence Society (ICS), the American Urogynecologic Society (AUGS), and the Society of Gynaecologic Surgeons for the description of female pelvic organ prolapse. Uterine Prolapse - Quantification staging will use to rule out the clinical staging 0, 1, 2, 3 and 4.

III. Uterine prolapse associated symptoms follow up sheet

Developed by the researchers based on literature review, consisted of 15 questions to assess the manifestation of uterine prolapse, each of which had 4 level to be selected by women as (1 meant no symptoms, 2 meant mild symptoms, 3 meant moderate symptoms and 4 sever symptoms. The total number of question was 15, the maximum score was 60 and minimum score was 15. A total score (range 15–60) was calculated by summing the individual symptom responses.

IV. Self-reported changing in symptoms and degree post-intervention tool; adopted from [19] consisted of 6 questions used to ask the participants if they had noticed any changes after the intervention in vaginal symptoms, urinary symptoms, bowel symptoms , sexual symptoms, general symptoms and the degree of prolapse. The response was 3 = increased, 2=unchanged or 1=reduced

Supportive material :-(Arabic Leaflet booklet)

An informational booklet developed after reviewing the related literature review regarding the uterine prolapse and it's management to help the women to have a better understanding of disease condition, conservative management, and improve the symptom and degree of uterine prolapse and steps of performing Customized pelvic floor muscle (Kegel) exercise and modified lifestyle as; maintain appropriate weight and balanced diet, avoid heavy lifting, correction of anaemia and constipation. Also the booklet associated with colourful pictures to clarify and explicably the information. Booklet validated by five experts in the field of maternity nursing and Obstetrics and Gynaecology Medicine. The booklet was initially written in English and later on translated into simple Arabic language.

Content validity and reliability

Study tools were submitted to a panel of five experts in the field of obstetrics and gynaecology nursing and medicine to test the content validity. Modifications were done according to the panel's judgment on the clarity of sentences and content appropriateness. Reliability analysis was conducted to investigate the instrument internal consistency, which used in the study. Internal consistency describes the extent to which all the questionnaire items measure the same concept or construct. Cronbach alpha coefficients were calculated to examine the measurement reliability with multipoint items. The accepted values of Cronbach alpha coefficient range from 0.60 to 0.95. The questionnaire items of the present study tools (tool I, and III) were proven reliable where $\alpha = 0.92$, and 0.95.

Pilot Study

It was conducted on 10% of the participants, were selected randomly and excluded from the total sample. Its aim was to evaluate the simplicity and clarity of the tools. It also helped in the estimation of the time needed to fill in the forms. According to the pilot study results, simple modifications were done as rephrasing or cancelling some questions.

Ethical consideration

An official permission was granted from the director of the El Nabawy El Mohandes Hospital affiliated to the Ministry of Health, Fayoum, Egypt. The researchers introduced themselves to the women who met the inclusion criteria and informed them about the purpose of this study in order to obtain their acceptance to share in this study, the researchers ensured that the study posed no risk or hazards to their health and their participation in the study is volunteer. Women who were willing to participate in the study and met the inclusion criteria were approached by the researchers and asked for verbal consent to confirm their acceptance, and all events that occurred during data collection were considered confidential.

Fieldwork:

Recruitment and follow-up of the participants were carried out from May 2018 to November 2019. The researchers attended the pre-mentioned study setting for 3 days per week from 9 am to 2 pm until the end of the pervious predetermined sample size. Before conducting the study, a written permission was obtained from the institutional authority of the predetermined hospital. After that, the researchers have introduced themselves to women who met the inclusion criteria and inform them about the purpose of this research to get their acceptance and cooperation to be recruited in it. Confidentiality of information was ensured to gain women confidence and trust. The researchers were constructed and prepared the different data collection tools, designed the evidence-based nursing intervention teaching materials and revised by experts in the field of maternity nursing and obstetric medicine. The collection of data covered two periods: pre-test and post-test periods; in the pre-test, data was collected from the women with uterine prolapse, then at the same time the researchers began the intervention for and follow-up them after one then three months. During the three months, the participants were free to contact the researchers in case they had any questions about their practices. Data collection was carried out through three phases: assessment phase, implementation phase, and the evaluation phase.

I. **Assessment phase**: In this phase, the researchers met the participants at the gynaecological outpatient and family planning clinics; explaining to them, the study purpose and explain for each woman the proper way to fill the tools accurately after obtaining their acceptance to share in the study. The tools of data collection required approximately 20-30 minutes from the participants to complete the data collection forms, the tools filled in this phase (all parts in the first tool, POP–Q(in examination room) and uterine prolapse associated symptoms questionnaire before intervention), then the researchers recorded the women's' telephone number and address in order to follow-up them.

II. Implementation phase: In this phase, the intervention was administered through group counselling. The researchers conduct two sessions for 90 minutes each to discuss many issue related to the uterine prolapse as causes, risk factors, symptoms, complication (discussed in first session), while the conservative management discussed in second session followed by follow-up of data collection through face-to-face and telephone interviews, were conducted at the lectures room of the hospital according to the suitable time for each woman in the follow-up schedule in the outpatient clinic.

At the second session, the researchers taught the participants the self-care measures necessary to manage the uterine prolapse as adopted the technique of pelvic floor muscle (Kegal) exercises and modify the life style as; Avoid constipation by eating high-fiber foods and drinking plenty of fluids, avoid bearing down to move the bowels, avoid heavy lifting, control coughing and lose weight if there were overweight or obese

Technique of the pelvic floor muscle (**Kegal) exercise**:

• Before applying the technique, the researchers taught the mothers how to recognize the accurate muscle, where to imagine that trying to stop her from passing gas or trying to stop the flow of urine midstream.

• The women advised and taught to insert a clean finger into the vagina before doing practicing Kegel exercises and if the women feeling pressure around her finger, she is on the right track.

• The women also were instructed to place a hand on her belly during the exercise to make sure that it is kept relaxed.

• Researchers performed vaginal examination during re-demonstration to ensure correct use of muscles.

In the absence of evidence regarding how many squeeze must be emerged, the researchers relayed on the recommendations from Harvard Medical School, [**20**]**,** as the following: The researchers told the women to continue contracting the muscles for about 5 seconds and then to loosening them for 5 seconds. In the first week they were asked to

perform this exercise at home, and repeat it 5 times per day (25 contractions each day) was performed. The researchers told the women to relax for a period equal to the period of holding the contraction. During the second week, the mother was asked to repeat the exercise 10 times per day (50contractions each day) and increase the duration of holding to 6 seconds then the women must gradually increase the length of time for tighten and release every week. They were asked to register the duration and frequency of the exercises performed daily, in the exercise diary (a follow up form) which included in the booklet, which developed by researchers and this booklet handed to the mothers in the first session to keep it at home, act as guidance materials for the exercise's technique. Different teaching methods were used in counselling sessions such as lectures, discussions, and videos. At the end of the session, the researchers made a conclusion and took the feedback from each participant. The researchers followed up the participants in the clinics and through phone or WhatsApp if the woman had any problem during the follow-up. In addition the researchers contact every week with the women to ensure each women follow the instructions and adopted the exercise.

Evaluation phase:

The evaluation phase was done to determine the impact of evidence based nursing intervention on improve the symptoms and degree of uterine prolapse. In this phase, the researchers evaluated the women knowledge regarding the uterine prolapse and its management by using part three in the first tool after the intervention immediately and one month later of the intervention. In addition the researchers assess the uterine prolapse symptoms and degree by tool II, III before the intervention and at one and three months after the intervention. Also after three months of the intervention the researchers used tool IV to assess the degree of change in the condition after the intervention. The Post-test consumed about 20-30 minutes for each woman. The researchers kept on a continuous telephone contact with women to determine the exact time for measuring the post-test.

Limitation of study

• 10 cases from the interviewed women with uterine prolapse were dropped out due to interference of their husband, who preferred surgical treatment. Those cases were replaced with another case to reach the sample size.

• Result cannot be generalized because the sample was selected not based on randomization.

• The study did not use control group. The investigator had no control over the events that took place between pre-test and post-test due to the flow rate of the cases and avoid illegal issue as tell the knowledge for one women and didn't tell to another women with the same condition.

Statistical design

All statistical analyses were done using SPSS version 20. Initially, the internal consistency coefficients were examined to ensure the reliability of the used instrument for the present samples. Frequencies, means and standard deviations were calculated to describe the samples. T test and wilcoxon test were used to compare the means of pre and post-intervention. Statistical significance was considered at p-value <0.05

3. RESULTS

Table (1) represented the distribution of socio-demographic characteristics and lifestyle of the studied women, the results revealed that the mean age of the women was 33.2±4.3. Moreover, 50% of the studied sample can read and write and 62.5 % of them housewife, also, 72.5% of them had enough income. In addition, 70% of the women in the study reported they carrying heavy objects and 50 % of them exhibit overweigh.

Table (2) represented the distribution of the studied sample according to obstetric history, the results showed that 72.5% of the women their gravity and parity were between 1-3. Also the result represent that, 65% of the studied sample their previous mode of delivery was normal vaginal delivery, and 77.5% of them had complication in previous labour and the uterine prolapse was the most common complication which represent 45.2%. On the other hand 47.5% of the studied sample their Inter-pregnancy interval was ≤ 2 years. In addition all the women in the studied sample reported, they not practicing pelvic floor muscle exercise before.

Table (3) elaborates the distribution of the studied sample according to their knowledge regarding uterine Prolapse and its management; the results showed that, there was a significant improvement between pre, post and follow up percentage of women's knowledge.

Table (4) the result exhibit that, there was a highly statistical significant improvement in the sexual symptoms among the studied women between pre, one and three months after the intervention related to all the items as; dyspareunia, feel of pelvic pressure, feel of something falling out of vagina, feel of lower back pain and standing, and lifting worse previous symptoms.

Table (5) pointed to the distribution of urinary and bowel symptoms among the studied sample before, one and three months after the intervention the result exhibit that, there was a highly statistical significant improvement in the urinary and bowel symptoms among the studied women after the intervention related to all the items.

Table(6) This table indicted to the mean differences score between total symptoms pre, one and three months later after the intervention among the studied group; the results revealed that, there was improvement in the associated symptoms of the uterine prolapse 29.3±5.9, 18.6±4.8and 12.1±3.3 at before, one and three months later after the intervention. (f=67.5 p=0.001).

Figure (1) illustrate the distribution of vaginal symptoms among the studied sample before, one and three months after the intervention the result exhibit that, there was a highly statistical significant improvement in the vaginal symptoms among the studied women between pre, one and three months after the intervention related to all items as; sensation of bulge, pressure and heaviness

Figure (2) the result illustrated that, there was a highly significant improvement in the uterine prolapse degree among the studied sample. Before the intervention there was 62.5% of the women complain from the 2nd degree of prolapse, while this incidence decreased to 10% after three months of the intervention.

Figure (3) revealed the change in uterine prolapse symptoms and degree as reported by women following the three months of the intervention. Most of the women reported decrease in vaginal, sexual, urinary and bowel symptoms (90%, 87.5%, 82.5%, and 80% respectively). As well as the figure show 85% of the women in the present student reported reduced (improvement) in the degree of uterine prolapse.

Table (1) Distribution of socio-demographic characteristics and lifestyle of the studied women.

Items	N (40)	%
Women's age Mean± SD	33.2±4.3	
Education level		
Read & write	20	50
Primary	7	17.5
Secondary	8	20
Higher education	5	12.5
Occupation	15	37.5
Working	25	62.5
Housewife		
Residence		
Rural	32	80
Urban	8	20
Family income		
Enough	29	72.5
Not enough	11	27.5
Carrying heavy objects		
Yes	28	70
No	12	30
BMI		
Normal	5	12.5
Under weigh	1	2.5
Over weight	20	50
Obese	14	35

Table (2) Distribution of the studied sample according to obstetric history

Obstetric history	N(40)	%
Gravidity		
1-3	29	72.5
> 3	11	27.5
Parity		
1-3	29	72.5
> 3	11	27.5
Previous mode of delivery		
VD	26	65
Cs	14	35
Instrumental	0	0
Complication with previous labour		
Yes	31	77.5
No	9	22.5
Kind of complication n= 31		
Laceration	9	29
Trauma	2	6.5
Precipitate labour	6	19.4
Uterine prolapse	14	45.2
Practicing pelvic floor muscle exercise		
Yes	0	0
No	40	100
Inter-pregnancy interval (IPI)		
Just one pregnancy	4	10
≤ 2 years	19	47.5
> 2 years	17	42.5

Table 3. Distribution of the studied sample according to knowledge regarding uterine Prolapse and its management (n= 40)

Knowledge	Pre	Post	Follow up by one month	F	P-value
		n (%)			
Definition					
Satisfactory	7(17.5)	32(80)	34(85)	10.3	<0 .05*
Unsatisfactory	33(82.5)	8(20)	6(15)		
Causes & Risk factors					
Satisfactory	6(15)	31(77.5)	35(87.5)	19.2	<0 .05*
Unsatisfactory	34(85)	9(22.5)	5(12.5)		
Stages					
Satisfactory	8(20)	34(85)	37(92.5)	15.6	<0 .05*
Unsatisfactory	32(80)	6(15)	3(7.5)		
Signe & symptoms					
Satisfactory	19(47.5)	36(90)	38(95)	12.1	<0 .05*
Unsatisfactory	21(52.5)	4(10)	2(5)		
Diagnostic test					
Satisfactory	14(35)	33(82.5)	36(90)	10.1	<0 .05*
Unsatisfactory	26(65)	7(17.5)	4(10)		

Complication Satisfactory Unsatisfactory	14(35) 26(65)	31(77.5) 9(22.5)	38(95) 2(5)	16.8	<0 .05*
Conservation management Satisfactory Unsatisfactory	5(12.5) 35(87.5)	36(90) 4(10)	39(97.5) 1(2.5)	18.7	<0 .05*
pelvic floor muscle exercise Satisfactory Unsatisfactory	4(10) 36(90)	37(92.5) 3(7.5)	39(97.5) 1(2.5)	19.1	<0 .05*
Total knowledge Satisfactory Unsatisfactory	6(15) 34(85)	36(90) 4(10)	37(92.5) 3(7.5)	18.2	<0 .05*

Table 4. Distribution of sexual symptoms among the studied sample before, one and three months after the intervention n= 40

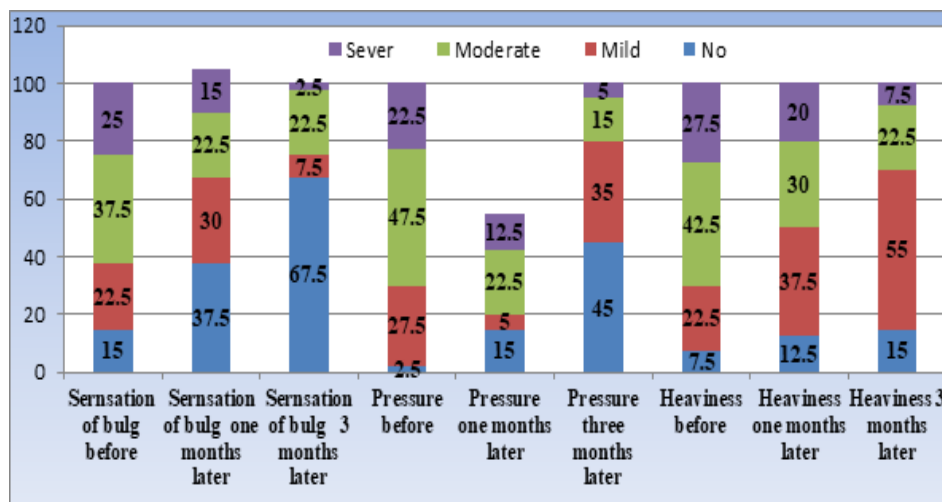| Items	Before the intervention	One months later	Three months later	F	P-value
%					
Dyspareunia No Mild Moderate Sever	0 12.5 47.5 40	25 27.5 25 22.5	35 40 17.5 7.5	40.5	0.001**
Feel of pelvic pressure No Mild Moderate Sever	2.2 27.5 47.5 22.5	15 5 22.5 12.5	45 35 15 5	15.6	0.001**
Feel of something falling out of vagina No Mild Moderate Sever	15 22.5 37.5 25	37.5 30 22.5 15	67.5 7.5 22.5 2.5	23.4	0.001**
Feel of lower back pain No Mild Moderate Sever	7.5 25 37.5 30	25 32.5 22.5 20	27.5 52.5 12.5 7.5	9.3	0.001**
Standing, and lifting worse previous symptoms No Mild Moderate Sever	5 12.5 35 47.5	15 27.5 25 32.5	25 42.5 15 17.5	20.1	0.001**

Figure (1) Distribution of vaginal symptoms among the studied sample before, one and three months after the intervention n= 40

Table 5. Distribution of urinary and bowel symptoms among the studied sample before, one and three months after the intervention n= 40

Symptoms	Before the intervention	one months later	Three months later	F	P-value
	%				
Urinary symptoms					
Incontinence					
No	5	27.5	50	19.6	0.001**
Mild	12.5	35	25		
Moderate	47.5	22.5	15		
Sever	35	15	10		
Urgency					
[					
No	47.5	52.5	57.5	21.5	0.001**
Mild	2.4	20	22.5		
Moderate	27.5	12.5	10		
Sever	22.6	15	10		
Bowel symptoms					
Incontinence of flatus,					
No	27.5	50	22.5	11.3	0.001**
Mild	22.5	12.5	42.5		
Moderate	37.5	27.5	25		
Sever	12.5	10	10		
Feeling of incomplete emptying				9.9	0.001**
No	12.5	50	72.5		
Mild	47.5	22.5	10		
Moderate	30	20	15		
Sever	10	7.5	2.5		
Straining during defecation				10.4	0.001**
No					
Mild	60	75	80		
Moderate	17.5	12.5	15		
Sever	15	10	5		
	7.5	2.5	0		

Table 6: Mean differences score between total symptoms pre, one and three months later after the intervention among the studied group (n= 40)

Item	pre	one month later	3 months later	F	P-value
		Mean ±SD			
Total symptoms	29.3±5.9	18.6±4.8	12.1±3.3	67.5	0.001**
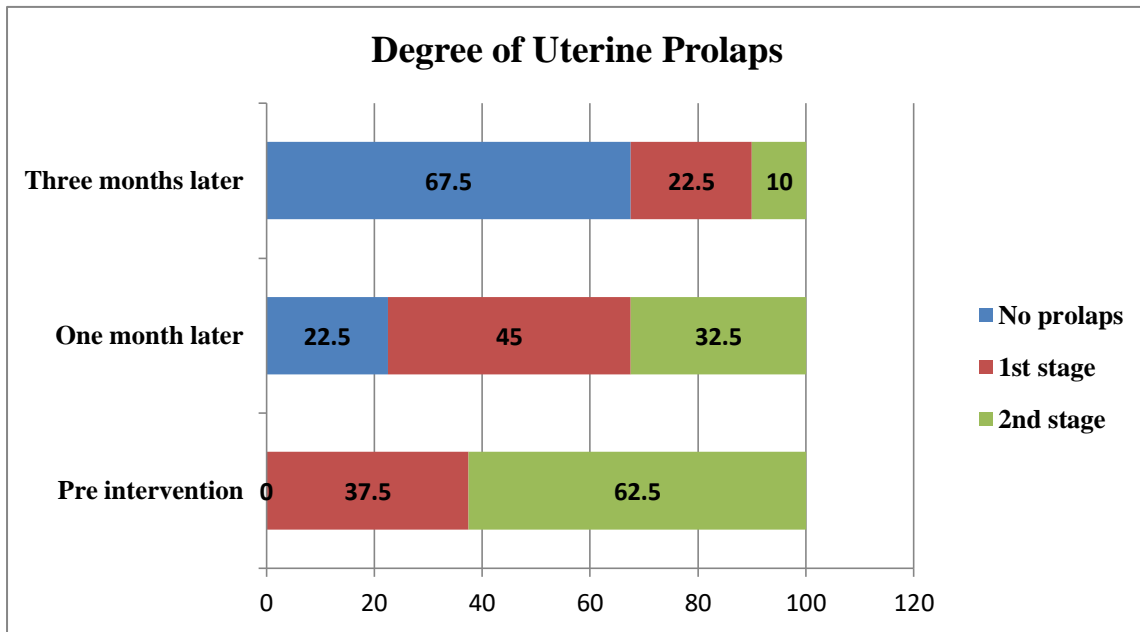
Figure (2) Degree of uterine prolapse among studied sample pre, one and three months later after the intervention (n= 40)
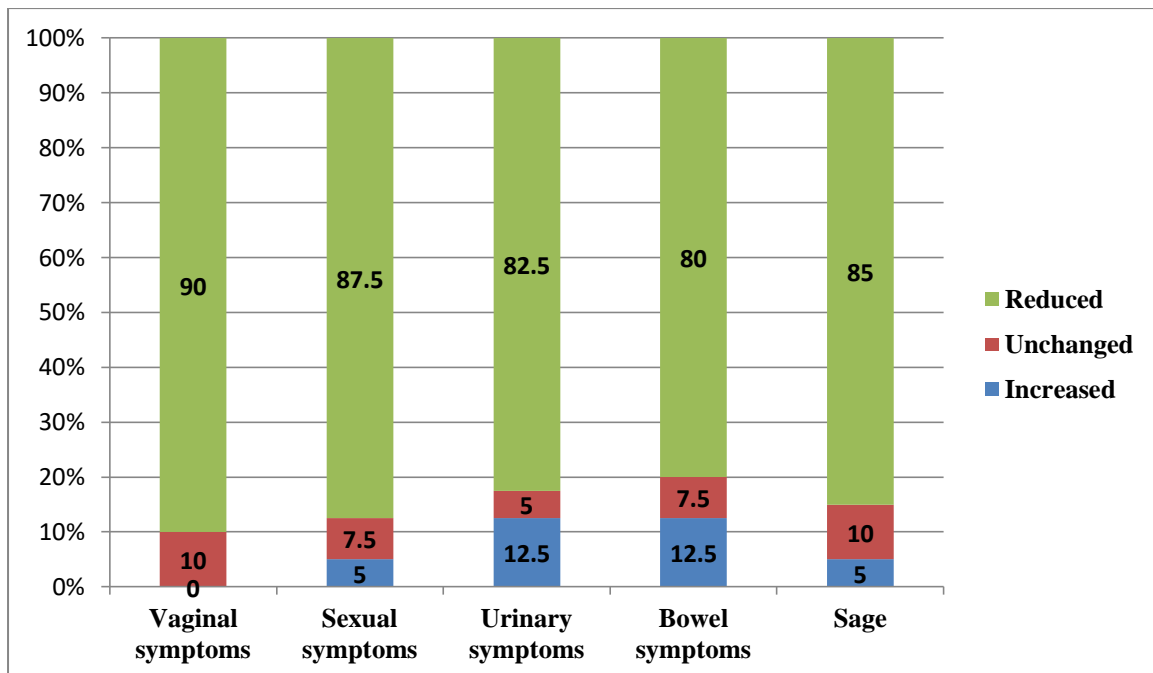
Figure (3). Changes in women`s symptoms and degree as reported following three months of the intervention n=40.

4. DISCUSSION

Uterine prolapse (UP) is a reproductive health condition that has not received a sufficient attention despite its high prevalence. The exact number of affected women by UP is difficult to quantify because symptoms vary widely, and some women may be embarrassed to discuss it with their health care providers. According to report of the American college of obstetricians and gynaecologists 2015, **[21]** the women undergoing routine examinations between 37% and 50% had stage II or III. The prevalence will increase nearly 50% by 2050. Over 200,000 women in USA have surgery every year to alleviate the symptoms of prolapse. The direct cost of prolapse surgery is greater than $1 billion per year **[22].** Without support, and lack of communication with health team, women feel they are suffering in silence‖ with this condition. The aim of this study is to evaluate the effect of the evidence based nursing intervention on reliving the uterine prolapse symptoms and degree.

The result of the current study accepted the research hypothesis, which stated that, women complain uterine prolapse exhibits improve in symptoms and degree after adopt the evidence based nursing intervention.

The findings of the current study was discussed in the following three sections: Section I: shows the socio-demographic characterises, life style and women's knowledge related to uterine prolapse and its management among the studied women, Section II: related to the effect of evidence based nursing intervention on improvement of uterine prolapse symptoms, and Section III: represent the effect of evidence based nursing intervention on improvement of uterine prolapse degree.

Section I: the socio-demographic characterises, life style and women's knowledge related to uterine prolapse and its management among the studied women.

The current result revealed that the mean age of the women was 33.2±4.3. Moreover, half of the studied sample can read and write and slightly less than two third of them were housewife, also, more than three fourth was live in rural area. In addition slightly less than three fourth of them had enough income. On the other hand, more than two third of the women in the study represent they carrying heavy objects and half of them exhibit overweigh. This result was consolidated by **Hassan, (2015), [23]** who found that about half of the studied women were in the age range between 30-45 years and mentioned that the prevalence of utero-vaginal prolapse increased steadily with age. This similarity could be explained in the light of advancement of women's age and hormonal change as predisposing factors for utero-vaginal prolapse. As well as **Saadia, et al., 2015 [24]** referred to more than two third of the women in the study was moderate obese and carrying heavy object and that agree with the current result. This may be due to most women in rural area not used to practicing exercise as well as may be ignore the correct meaning of balance diet and nutrition, in addition women in rural area achieve many hard task in the house and farmer which request carrying heavy object in many times.

Also the previous study findings were in accordance with **Paneru (2016) [25]** who studied **"**prevalence, risk factors and associated factors of uterus prolapse in Doti District of Nepal: A Community-Based Population Study" found that a major common risk factor of uterine prolapse with statistically significant prevalence was low educated women, among more than two thirds of the studied women; those women also lived in rural areas, were housewives and performed hard work like farming and load carrying with less rest time. This similarity could be explained by reproductive morbidity with gynaecological uterine prolapse disorders which have a very high prevalence among women in rural areas and which result from lack of their access to medical facilities. Moreover, low educated women have silent ignorance and unhealthy life style, which make them unable to seek health care. They also carry heavy objects, which leads to weakness and laxity of uterine support structures that represent precipitating factors of prolapse.

The aforementioned finding of the study is also supported by **Shrestha et al., (2017); [26]** who studied "Women's experiences and health care-seeking practices in relation to uterine prolapse in a hill district of Nepal", and reported that more than one third of the studied women with uterine prolapse were in the age range between 35-50 years, and most of them lived in rural communities. Also more than three quarters of them were low educated and did heavy work immediately after child delivery. These factors made them more prone to having uterine prolapse than others. They referred to education as the most important indicator of understanding the socio-economic status and level of awareness among the women. It influences their decision toward health seeking behaviour.

Regarding the obstetric history of the studied women, the results of the study showed that slightly less than three fourth of the women had one to three times pregnancy and delivery. Also the result represent that, about two third of the studied sample their previous mode of delivery was normal vaginal delivery. In addition, more than three fourth of the studied women had associated complications of delivery. Uterine prolapse as associated complication of delivery represents about half of the sample, while laceration represents slightly less than one third of the sample.

The results of the current study were congruent with **Puri., (2016); [27]** who studied " Prevalence, risk factors and traditional treatments of genital prolapse in Manma, Kalikot district, Nepal: a community based population study: a National Cohort Study in Singleton Primipara after Vaginal or Caesarean Delivery" and found that more than three quarters of the studied women were multiparous with doubled risk for pelvic organ prolapse after vaginal delivery, than caesarean section. Also more than two thirds of them had uterine prolapse after having more than four children.

The previous result of the present study was also in agreement with **Borfllo (2016);[28]** who studied the effect of pelvic-floor muscle exercise on quality-of-life outcomes in women with uterine prolapse. He found that about two thirds of studied women delivered their infants with large birth weights that were associated with lacerations in genital tissues, and represented higher jeopardy factors for prolapse after vaginal delivery than caesarean section.

As for women's knowledge of uterine prolapse, the results of the current study revealed that the majority of the studied women had inadequate knowledge regarding uterine prolapse and its management, also the result showed that, there was a significant improvement between pre and post and follow up percentage of women's knowledge. The previous study finding was in the same line with **Saadia, et al., 2015 [24]** who studied " effect of Maya massage on reliving uterine massage symptoms and degree", and reported that thirty seven percent of the studied women had low knowledge level, while fifty two percent of them had moderate level of knowledge.

In addition, the previous study finding also supported by **Shrestha et al., (2017); [26]** who studied "Women's experiences and health care-seeking practices in relation to uterine prolapse in a hill district of Nepal"and found that above two thirds of studied women had low-leveled knowledge of uterine prolapse and didn't believe the uterus was important for body image or sexuality. Meanwhile, less than one third of them had correct knowledge of prolapse. While the prior study finding disagreed with **Khan et al., (2015),[22]** who studied trends in management of pelvic organ prolapse among female Medicare beneficiaries and reported that more than half of the studied women (Fifty-three percent) had no knowledge of uterine prolapse, and fourty seven percent had satisfactory knowledge of uterine prolapse.This difference could be explained by difference of both communities regarding women social norms, community health facilities and multiple channels/sources women used to access their information about uterine prolapse.

Regarding women's uterine prolapse manifestation before intervention, the results of the present study revealed that, the main sexual symptoms complained by the women were; slightly less than half of the studied women had severe dyspareunia, as well as about one third of them complain from lower back pain. This result was consistent with **Glazener et al., (2017), [29]** who studied A randomized Controlled trial of pelvic floor Dysfunction, muscle training for stage I and II uterine prolapse and reported that most of the studied women (above eighty percent) described their major manifestation of uterine prolapse as difficulty with sexual activity, which resulted in women's inability to perform home tasks or fulfil their husband's sexual desires causing severe emotional stress. Above two thirds of them complained from bulging sensation, lower back pain and a heavy feeling in their pelvic region, and increase in vaginal discharge.

As for women's uterine prolapse manifestation before the intervention, the result revealed that the main vaginal symptoms complained by the women were; about less than of one third of them had heaviness on pelvic area and sensation of bulging. The previous study finding was sturdily on the same line with **Maher et al., (2017);[30]** who made a comparative study to investigate the effect of 2 packages of pelvic floor muscle training on the clinical course of stage I–III pelvic organ prolapse and found that twenty-five percent of the studied women had had heaviness on pelvic area and sensation of bulging.

As for women's uterine prolapse manifestation before the intervention, the result revealed that the main urinary and bowel symptoms complained by the women were; about half of studied sample moderate urinary and urinary incontinence. The previous study finding was sturdily on the same line with **Thapa, Rana, Gurung, (2016)[31]** who studied the contributing factors of utero-vaginal prolapse among women attending in Bharatpur hospital and reported that, slightly less than half of the sample complain urinary incontinence

On comparing the uterine prolapse symptoms the result exhibit that, there was a highly statistical significant improvement in the sexual symptoms and urinary and bowel symptoms among the studied women between pre, one and three months after the intervention related to all the items as; dyspareunia, feel of pelvic pressure, feel of something falling out of vagina, feel of lower back pain and standing, and lifting worse previous symptoms. Also the result indicated to reduce the mean differences score between total symptoms pre, one and 3 months later after the intervention among the studied group which indicated to the improvement of the condition.

The previous study finding was in agreement with **Bruno et al., (2016**), **[32]** who found that a significant difference was detected in the mean score of improved prolapse symptoms from baseline symptoms of the studied women before intervention, which continued to relieve and clear shift from severe and moderate grades of prolapse to a mild grade except in week one after intervention of pelvic exercise.

Also, the previous study finding was congruent with **Priyanka.,et al (2015),[33]** who conducted the pre-experimental study to assess the effectiveness of nursing intervention package on management of pelvic organ Prolapse among women, , and reported that pelvic organ prolapse (POP) symptoms, severity significantly improved in a positive direction after the intervention.

On the other hand the result illustrated that, there was a highly significant improvement in the uterine prolapse stage among the studied sample. Before the intervention there was about two third of the women complain from the 2nd degree of prolapse, while this incidence decreased to ten percent after three months of the intervention.

The prior study finding was in the same line with **Stüpp et al., (2017), [34]**who investigated the effectiveness of pelvic floor muscle training in reversing stages I, II, and III of pelvic organ prolapse, alleviating symptoms versus lifestyle advice, training comprising individual physical therapy sessions and home exercise and found that nineteen percent of the studied women for pelvic floor muscle training group improved one stage of pelvic organ prolapse quantification system versus eight percent of studied women for life style modifications advice.

Also the prior study finding was strongly supported by **Monga et al., (2016**), **[35]**who found that significant down-staging improvement among five of studied women in group of pelvic floor muscle training from stage (I) to stage (0) of utero-vaginal prolapse after intervention was observed. Hence, their strongly highlights the need to focus on this traditional exercise therapy method for managing this condition, which is considered the first-line treatment for prolapse as there is significant improvement in symptoms after this therapy, which results in improved quality of the studied women life.

Finally the current study revealed the degree of change in uterine prolapse symptoms and stage as reported by women following the three months of intervention. Most of the women reported decrease in vaginal, sexual, urinary and bowel symptoms. As well as the majority of the women in the present student reported reduced (improvement) in the stage of uterine prolapse.

These findings were in agreement with **Hagen et al, (2017)[14]** who found in their study that physicians recommend pelvic floor muscles exercises for three-fourths of patients, and less than two-thirds of women reported that pelvic floor muscles exercises somewhat effective or very effective. In a contrary with **Dumoulin and Hay-Smith (2017),[36]** the authors reported that women do not believe that pelvic floor muscles exercises work as a treatment for uterine prolapse. While, **Stüpp, (2017)[34]** conducted a randomized controlled trial to assess the role of pelvic floor muscle exercises in the treatment of uterine prolapse at twenty three centres in the UK, one in New Zealand, and one in Australia. Studies reported that there was an improvement in uterine prolapse symptoms and stage with significant improvements at (P=0.01). Also, the results found that forty-eight percent of women reported pelvic floor muscles exercises are effective in improve stage of uterine prolapse, fifty percent indicated they were not effective and thirty-six percent did not know if the pelvic floor muscles exercises were effective in improving their uterine prolapse.

Based on the results of the present study the following can be concluded:

Evidence based nursing intervention significantly relieved the uterine prolapse symptoms after intervention by three months and that reflected upon relieving uterine prolapse degrees.

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5. RECOMMENDATIONS

Based on the study results, the following recommendations can be given:

- Integration of the Evidence based nursing intervention which helps in improving the degree and relief the associated symptoms of uterine prolapse into undergraduate and postgraduate nursing curriculum of maternity and neonatal health nursing faculty of nursing.

- Evidence based nursing intervention as pelvic floor muscles exercise and changing lifestyle should be an integral part of the gynaecological treatment for uterine prolapse in the maternity hospitals.

- Regular development of medical campaigns by female doctor especially to rural areas for early detection and diagnosis of uterine prolapse.

- Further research still needed to identify the effective of others non-surgical treatment modalities to manage uterine prolapse.

- Repetition of the study by using qualitative approach to assess the experience of women with uterine prolapse.

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