# Effect of Mayan Abdominal Massage Technique on Sexuality and Quality of Life among Women with Uterine Prolapse

**Hanan Fawzy Abbas Soliman[1], Sahar Abdelrady Elkheshen[2], Hanady Sh. Shehata[3], Hala Abdelgawad[4], Reda Mohamed-Nabil Aboushady[5]**

[1] Assistant professor of Maternal and Newborn Health Nursing, Faculty of Nursing, Ain Shams University, Egypt

[2] Assistant professor of Obstetrics and Gynecology Nursing, Faculty of Nursing, Misr University for Science and Technology, Egypt

[3] Assistant professor of Family and Community Health Nursing, Faculty of Nursing, Menoufia University, Egypt

[4] Professor of Physical Therapy, Faculty of Physical Therapy, Sphinx University, Egypt

[5]Assistant professor of Maternal and Newborn Health Nursing, Faculty of Nursing, Cairo University, Egypt

**Corresponding author: redaaboushady.77@gmail.com**

**Abstract**:

Pelvic organ prolapse dramatically compromises sexual, bowel, and bladder function and lowers quality of life. Mayan abdominal massage is a form of non-invasive external self-treatment that promotes the natural healing of the abdomen and pelvic organs. **The aim of this study** was to evaluate the effect of Mayan abdominal massage technique on sexuality and quality of life among women with uterine prolapse. Research **design**: A quasi experimental design was utilized to fulfill the aim of the study. **Sample**: A purposive sample of 75 women was selected according to the inclusion criteria. **Setting**: In gynecological outpatient and the family planning clinics at Teaching University Hospital, Menoufia Governorate. Egypt. **Tools used to collect the data were** the Structured Interview Questionnaire, Female Sexual Function Index, and Health-related Quality of life tool. **Results**: The total mean scores of female sexual function index were significantly improved after three months of intervention from 18.7 ± 4.5 to 28.1 ± 4.3. Also, there are statistically significant differences of the mean scores of Health-related Quality of life domains between before and after three months of intervention. **Conclusion**: Mayan abdominal massage significantly improves sexual function and quality of life after three months' intervention among women with uterine prolapse. **Recommendation**: Mayan abdominal massage is considered one of the most effective therapeutic options accompanied with changing lifestyle for improving sexual function and quality of life among women with uterine prolapse should be used as an integral part of the gynecological treatment in the maternity hospitals**.**

**Keywords: Pelvic organ prolapse, Sexual function, Quality of life, Mayan abdominal massage.**

## Introduction

Uterine prolapse (UP) results from a weakness of its surrounding support structures, allowing the uterus to descend down the vaginal canal. Typically prolapse is not a life-threatening, however it can cause various prolapse symptoms as well as bladder, bowel, and sexual dysfunction in women [1&2].

The incidence and prevalence of Pelvic organ prolapses (POP) is estimated that closely 50% of women will develop some form of prolapse and merely 10–20% of them seek medical help. POP prevalence rises with age, with an incidence peak in women aged 60–69 years. POP can be recognized in up to 50% of women upon vaginal birth [3]. It is difficult to accurately determine the incidence of uterine prolapse because many women with stage 0 uterine prolapse are asymptomatic. While women in other stages are less likely to seek medical help because they are shy about discussing their concerns with their doctors [4].

A combination of physiological, anatomical, genetic, lifestyle, and reproductive factors that interact during a woman's life can cause pelvic floor dysfunction. Frequently reported risk factors to include multiparty, excessive intra-abdominal pressure, tissue atrophy due to aging and loss of estrogen, joint hypermobility, congenital ligament weakness, as well as direct and indirect injuries to the muscles, ligaments, and nerves related to the pelvic floor/organs which also appears to be the cause of uterine prolapse [5]. Other reported risk factors are Age, high parity, obesity, cigarette smoking/chronic cough, constipation, and estrogen deficiency [6].

Manifestations of uterine prolapse vary depending on the stage, but in general, symptoms include the following: pelvic heaviness, vaginal bleeding or increased vaginal discharge, difficulty in sexual intercourse, urinary incontinence, cystitis, incidence of constipation, low back pain, and the presence of a protrusion in the vaginal opening by prolapsed uterus, feeling sitting on a ball or something falling from the vagina, and weakening of the vaginal tissues [7]. In the early stages of uterine prolapse, there may be no symptoms, but they appear and worsen with poor posture and increased severity of infection [1&8]. Mostly, sexual dysfunction and changes in body image are associated with prolapse. For some women, sexual intercourse may be painful or the belief that their anatomy is "abnormal" may make them feel too embarrassed or ashamed to have sex. Women may also fear that sexual activity will damage the organs involved in prolapse [9].

Conservative management for uterine prolapse is mainly used to treat the first stages of uterine prolapse as; practicing Kegel exercises continuously, preventing and treating constipation immediately, not lifting heavy things, treating chronic cough, maintaining normal and ideal weight gain, undergoing alternative hormone therapy in a menopause stage [10].

The treatment of uterine prolapse depends on changing the daily lifestyle such as; Losing excess weight, consuming healthy foods, and practicing physical activities that help the uterus return to its original position [11]. Therefore, the intervention to foster a healthy lifestyle is essential and must be adapted to tighten the loose muscles and improve women sexual function [12].

Mayan abdominal massage technique is considered one of the conservative treatments for the early stages of uterine

prolapse. It is a non-invasive external massage used to strengthen ligaments and muscles as well, to support the uterus and ovaries. Also, it is a simple abdominal massage that women can do at home as a "self-care" to keep muscles and ligaments healthy. This technique may take from a few minutes to a few months for the uterus to return to its original position [13]. Moreover, arvigo maya abdominal massage addresses the position and health of pelvic and abdominal organs and improves their function by releasing physical and emotional congestion from the abdomen [14].

Maya abdominal massage is performed deeply, slowly, and in a penetrating manner in the abdomen and lower back helping to direct the internal genital organs into their proper position by softening deep muscle tissue spasms. It also helps to release muscular tension in the trunk and diaphragm. Moreover, it is effective in correcting poor blood flow in the abdomen and vital organs for digestion, elimination, excretion, and reproduction. [4.14&15].

The nurses' role contributes to the initial assessment, management, and ongoing support of women with prolapse. They should be able to identify women who are at risk of developing pelvic organ prolapse (POP) or uterine prolapse, and they should be able to adopt preventive strategies to prevent the problem. Also, nurses should have a critical role in serving as health educators and counselors to impart important health education instructions to women with pelvic organ prolapse (POP) or uterine prolapse problems, by helping women adopt a healthy lifestyle. It is important to increase women's knowledge and awareness of uterine prolapse and encourage them not to be shy about reporting it and seeking medical help, which helps them improve their health by reducing the occurrence of uterine prolapse and its complications, as well as improving their sexual function [4].

**Significance of the study**

World Health Organization [WHO] [16] estimated that genital prolapse which is a common health problem affecting about 33% of women between 20-59 years of age. The prevalence of uterine prolapse (UP) is estimated to be 2-20 % in women under age 20 years old; the prevalence in Egypt was 56. 3%. It 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 that affects women sexual function, quality of life (QoL), and psychological state negatively. Women with weakness of the vaginal wall and failure to support the soft tissues in the pelvis, complain of urinary, bowel and sexual symptoms resulting in a profound impairment in their quality of life [17].

Non-surgical therapies such as the Mayan abdominal massage which is effective for relieving early degrees of uterine prolapse, are safe, affordable, and are used to tighten the lower abdomen and pelvic muscles to improve women's health, improve their sexual function and quality of life. A limited number of studies have contributed data regarding effect of uterine prolapse on women quality of life and sexual function and on the nonsurgical interventions used to improve them.

In Egypt, there is sparse research being conducted examining the effect of a non-surgical intervention on women with POP. Women shy away from seeking medical help to improve their sex lives. On the other hand, studies have proven that surgery and herbal remedies have many complications. All cited may be reasons

for women to try non-invasive methods such as pelvic floor muscle training exercises, arvigo techniques such as the "Mayan abdominal massage" which are effective and safe methods without risks. In this context, the current study applies an evidence-based nursing intervention such as the Mayan abdominal massage technique to improve sexual function and quality of life among women with first- and second-degree uterine prolapse.

**The aim of the study**

The aim of the current study is to evaluate the effect of Mayan abdominal massage technique on sexuality and quality of life among women with uterine Prolapse.

**Research hypothesis**

The current study hypothesized that:

H1. Women with uterine prolapse who will practice Mayan abdominal massage technique will improve the sexual function after three months of intervention than pre intervention.

H2. Women with uterine prolapse who will practice Mayan abdominal massage technique will improve the quality of life after three months of intervention than pre intervention.

## SUBJECTS AND METHODS

**Research Design**

A quasi-experimental research design was utilized to obtain the aim of the study.

**Sampling**

A purposive sampling of 75 women who were suffering from stage I, or II of uterine prolapse and were recruited for the current study according to inclusion and exclusion criteria. **The inclusion criteria**; married, educated women in reproductive age who had diagnosed with stage I, or II of uterine prolapse with low or no sexual pleasure associated. Otherwise, women who had a history of urogenital infections, had experienced recent stressful events in their life, suffered from chronic diseases, pelvic organ prolapse with stage 3 & 4 or urinary incontinence, were under medication that affects sexual function (e.g. antihypertensive drugs, cimetidine, and antidepressants), smokers, pregnant women. Moreover, those whose husbands had a history of sexual disorders, previous vaginal, perineal or anal surgery, and the presence of neurological condition, intrauterine device (IUD) is present, abdominal surgery recently, or hiatal hernia **were excluded** from the current study.

**Sample technique**

Seventy-five women who had first and second stage of uterine prolapse (75) were selected according to the following statistical formula: n = Z2p (1-p), where Z is the level of confidence according to the standard normal distribution (for a level of confidence of 95%, Z = 1.96); p is the estimated proportion of the population that presents the characteristic (when unknown, we used p = 0.5), (P is considered 0.05).

**Setting**

The current study was conducted at the gynecological outpatient clinics and the family planning clinics at Teaching Hospital affiliated to the Ministry of Health and gynecological outpatient clinics at University Hospital, Ministry of Higher Education, Menoufia Governorate. Egypt.

**3. Tools for data collection:** three tools were used for data collection:

**Tool 1. Self-Administered Questionnaire Sheet:** This tool was developed by the researchers to collect data based on literature review [11]. It was divided into two parts; **First part**; included data related to socio-demographic characteristics as; age, current marriage period, parity, BMI. **Second part: included data related to symptoms of utrine prolapse. It**

consisted of six questions related to uterine prolapse; the score was (1) for answer with yes and (0) for answer with no.

**Tool 2. Female sexual function index (FSFI)**: A standardized tool [18] with six-domains contains 19-questions; libido domain had (two questions), sexual arousal area had (four questions), lubrication area had (four questions), and three questions each for orgasm, sexual satisfaction and pain. Scoring by a 5-point Likert scale was used: it was ranged from (0-36), a score ≤ 26.55 is classified as female sexual dysfunction. Two domains of FSFI; "the individual domain scores and full-scale scores" were originated from the computational formula outlined in the table below. The individual domain scores were achieved by compile the individual items scores that include the domain and multiplying the sum by the "domain factor". Moreover, the full-scale score was achieved by adding the six domain scores.

| Domain | Questions | Score range | Factor | Minimum score | Maximum score | Score |
|---|---|---|---|---|---|---|
| Desire | 1,2 | 1-5 | 0.6 | 1.2 | 6.0 | |
| Arousal | 3,4,5,6 | 0-5 | 0.3 | 0 | 6.0 | |
| ubrication | 7,8,9,10 | 0-5 | 0.3 | 0 | 6.0 | |
| Orgasm | 11,12,13 | 0-5 | 0.4 | 0 | 6.0 | |
| tisfaction | 14,15,16 | or 1)-5 | 0.4 | 0 | 6.0 | |
| Pain | 17,18,19 | 0-5 | 0.4 | 0 | 6.0 | |
| Full scale score range | | | | 1.2 | 36.0 | Total |

**Tool 3. Prolapse Quality of Life Scale (P-QOL)**; It was developed by **Lenz, et al** [19]. P-QOL survey consisted of twenty items (20) as the following; general health perception (one question), the effect of prolapse (one question), the limitations of functions (two questions), psychical limitations (two questions), social limitations (three questions), personal effects (two questions), emotions (three questions), sleep/ energy (two questions) and the level of severity (four questions). The score of each sub parameter was calculated by using different formulas (15). Responses ranged from 'none/not at all', through 'slightly/ a little' and 'moderately' to 'a lot' to produce a four-point scoring system for each item. Scores in each domain ranged between 0 and 100. Having a result closer to 0 was evaluated as that the life quality of the participant was good, while the higher scores indicate the impairment of quality of life.

**Content validity and reliability**

Study tools were submitted to a panel of five experts in the field of maternity nursing and community health nursing 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, and labels the extent to which all the questionnaire items measure the same concept or construct. Reliability was calculated using Cronbach alpha coefficients to examine the measurement reliability with multipoint items. The accepted values of Cronbach alpha coefficient range from 0.60 to 0.95 **(Tavakol and Dennick)** [20]**.** The questionnaire items of the present study tools (tool 1, 2, 3 and 4) were proven reliable where $\alpha$ = 0.92, 0.96, 0.92 and 0.95.

**Pilot Study**

It was conducted on 10% of the study sample, were selected randomly and excluded from the main study 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 tools. According to the results of the pilot study, simple modifications were done as

rephrasing questions and canceling some questions.

**Ethical consideration**

Upon receiving the formal approval from the Research Ethics Committee of the Faculty of Nursing at Menoufia University (Ethics code, 901), the researcher introduce herself to women who met the inclusion criteria and inform them about the purpose of this study in order to obtain their acceptance to participate in this study. A written consent was obtained from the women who agree to participate in the study. Also anonymity and confidentiality are assured through coding the data. Women were assured that participation in this study is voluntary and they have the right to withdraw from the study at any time without affecting on the healthcare service that she will receive.

**4. Fieldwork**

Recruitment and follow-up of the participants will be carried out three months from (May 2022 to July 2022). The researchers attended the gynecological outpatient clinics three days per week starting at 9.00 a.m. to 2.00 p.m. to collect the data. Two periods of data collection: pre-test and post-test periods; in the pretest, data was collected from the women with uterine prolapse, then at the same time the researcher began the intervention for and follow-up them after three months, the researchers collected the data as a posttest. During the three months, the participants were free to contact the researchers in case they had any questions about their practices and sexual function. 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 gynecological outpatient clinics and the family planning clinics at Teaching Hospital Menoufia Governorate. Egypt; 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 (first tool, **FSFI**, and **P-QOL** 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 individual and group counseling according to the discussed topic such as the sexual relation topic and the women prefer to be in a group or alone. Three sessions (90 minutes for each session) followed by follow-up of data collection through face-to-face and telephone interviews, were conducted at the lectures room at previous setting according to the suitable time for each woman in the follow-up schedule in the outpatient clinics.

At the first session, after filling the tools, the researchers provided clear information for each participant regarding the uterine prolapse degrees and the associated symptoms, focusing on the sexual function. At the following 2 sessions, the researchers provided the women training on Mayan abdominal self-massage technique and taught them how to fill the schedule of weekly physical activity form. Different teaching methods were used in counseling sessions such as lectures, discussions, and videos to clarify how to practice Mayan abdominal massage. At the

end of each session, the researchers made a conclusion and took the feedback from each participant. In the third session, the researchers summarized all the information and techniques taught and took feedback from each participant. The researchers followed up the women at outpatient clinics through phone or WhatsApp massage if the woman had any problem during the follow-up.

The Mayan abdominal massage technique includes the following steps; Ask the women to empty their urinary bladder, wear loose clothing, then lie on their back and place a pillow under the head and knees (if desired), then raise their hips by placing a pillow under their pelvis and bring their hands together, not lifting but sliding over the pubic bones with constant pressure, resting on the soft tissues while slowly moving the fingertips towards the navel and stopping just below it; Then start again from the groin area on the right side up through the abdomen to the other side of the torso, and also repeat the method from the other side. Repeat this step five to ten times in each direction. This technique is done twice daily for a constant three months [15]. The following instructions as; avoid constipation, not lift heavy objects, avoid chronic cough, maintain a normal and ideal weight, eat healthy diet should be given for each woman through education and broacher.

**III. Evaluation phase**

In this phase, the researchers evaluated the sexual function by tool 2, and quality of life by tool 3, in the lecture room at previous setting. The Post-test consumed about 20-30 minutes for each woman, using the previous data collection tools. The researchers kept on a continuous telephone contact with women to determine the exact time for measuring the post-test.

**5. 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 ANOVA test were used to compare the means of pre and post-intervention. Statistical significance was considered at p-value <0.05.

**RESULTS**

**Table (1)** revealed that the mean age of the women was 43.68±8.41 years and two-third of them had more than five years of marriage duration (65.3%). Moreover, most of the women were multipara and delivered by spontaneous vaginal delivery (SVD) (73.3%), meanwhile most of the women were moderately educated (80.2%) and not working (82.7%). In relation to anthropometrics measurement, it was found that, the mean weight of the women was 68.31±9.33 Kg, while the mean height of them was 1.58±0.05 meter, as well as the mean Body Mass Index of them was 27.03±3.27. About half of the women were diagnosed with stage I or II.

**Figure (1)** showed the percentage distribution of uterine prolapse symptoms as reported by women as; increase vaginal discharge (61%), low sexual self-esteem (60%), pain during intercourse (50 %), low back pain (37%), discomfort during walking (33%), vaginal flatulence (30%), constipation (20 %) and others symptoms (10%) as; heaviness in the pelvis, and urinary tract infections.

**Table (2)** revealed that there was a highly statistically significant improvement in all sexual function domains after three months of practice Mayan abdominal massage among the women as; sexual desire, arousal, orgasm, lubrication, satisfaction and pain during sexual relation ($p < 0.05$). In addition, there was statistically significant improvement in the total female sexual function index with mean score was 28.1 + 4.3 (t= 8.5 & P=0.005) after three months of intervention.

**Table (3)** illustrated the changes in health related quality of life as reported by women following three months of intervention, it was found that there were statistically significant improvements in general health and social limitation among the women (P<0.05), also there were highly statistically significant improvement in other domains after intervention as in negative effect of prolapse, role limitation, physical limitation, emotional stress, and sleep/energy with (P= 0.001).

**Table (1). Frequency distribution of the demographic characteristics among the study sample.**

| Variable | N=75 | |
|---|---|---|
| | X±SD or n (%) | |
| **Age (year)** | 43.68±8.41 | |
| **Marriage duration** | | |
| **≤ 5 years** | **26** | **34.7%** |
| **> 5 years** | **49** | **65.3%** |
| **Educational level** | | |
| **- Can read & write** | **12** | **16.7%** |
| **- Preparatory/Secondary** | **60** | **80.2%** |
| **- High education** | **2** | **3.1%** |
| **Occupation:** | | |
| **- Housewife** | **61** | **81.3%** |
| **- Working** | **14** | **18.7%** |
| **Residence** | | |
| **Rural** | **64** | **85.3%** |
| **Urban** | **11** | **14.7%** |
| **Parity** | | |
| **Primipara** | **5** | **6.7%** |
| **Multipara ≤ 3 times** | **15** | **20%** |
| **Multipara ≥ 4 times** | **55** | **73.3%** |

| | | |
|---|---|---|
| **Degree or stage of prolapse**<br>**Stage I**<br>**Stage II** | <br>**32**<br>**43** | <br>**42.7**<br>**57.3** |
| **Mean Body weight (kg)** | **68.31±9.33** | |
| **Height (m)** | **1.58±0.05** | |
| **BMI (kg/m2)** | **27.03±3.27** | |

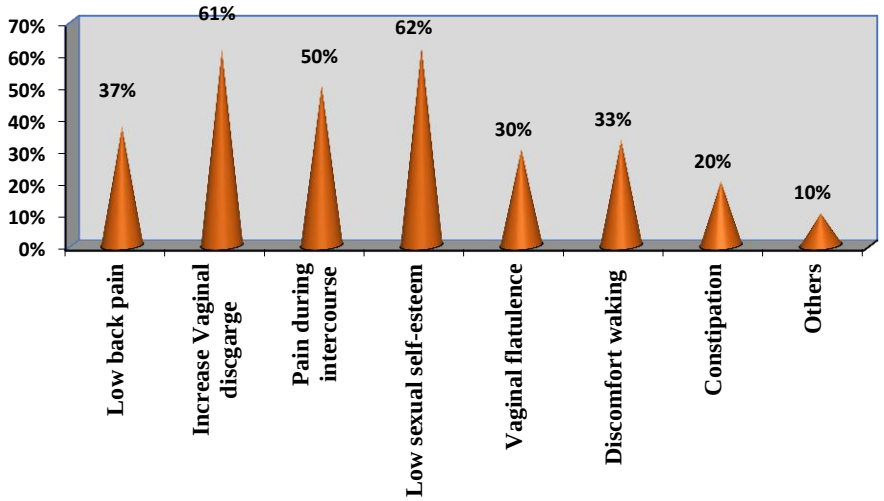


**Figure (1). Percentage Distribution of uterine prolapse symptoms among the studied sample.**

.

**Table (2). Mean scores of Sexual Function domains (FSFI) between pre and post intervention among the studied sample.**

| Sexual function domains | Pre-intervention | Post 3 months | *t* | *P* |
|---|---|---|---|---|
| | Mean ± SD | | | |
| **Desire** | **2.3 ± 0.77** | **4.5 ± 1.2** | **8.5** | **< 0.05*** |
| **Arousal** | **2.8 ± 0.8** | **4.8 ± 1.0** | **8.4** | **< 0.05*** |
| **Lubrication** | **3.3 ± 1.1** | **4.8 ± 1.0** | **5.8** | **< 0.05*** |
| **Orgasm** | **2.6 ± 1.0** | **4.2 ± 1.1** | **6.0** | **< 0.05*** |
| **Satisfaction** | **3.0 ± 0.8** | **4.4 ± 1.1** | **5.6** | **< 0.05*** |
| **Pain** | **4.6 ± 1.4** | **5.4 ± 1.1** | **2.4** | **< 0.05*** |
| **Mean total scores (2-36)** | **18.7 ± 4.5** | **28.1 ± 4.3** | **8.5** | **< 0.05*** |

***Statistically significant differences at (p ≤ 0.05)***

**Table (3). Mean scores of quality-of-life domains between pre and post intervention among the studied sample.**

| P-QOL Domains | re-intervention | Post 3 months | *t* | *P* |
|---|---|---|---|---|
| | Mean ± SD | | | |
| General health perception | 39.5±15.2 | 31.6±16.3 | 3.07 | < 0.05* |
| Effect of prolapse (Negative) | 47.4 ±40.4 | 10.5±19.4 | 7.13 | < 0.001** |
| Role limitation | 16.7± 31.9 | 2.6±8.4 | 3.7 | < 0.001** |
| Physical limitation | 19.3± 32.5 | 2.6±11.5 | 4.29 | < 0.001** |
| Emotional stress | 26.9±33.8 | 8.8±24.4 | 3.76 | < 0.001** |
| Sleep/energy | 22.8±25.6 | 6.2±16.9 | 4.67 | < 0.001** |
| Social limitation | 5.8±17.9 | 1.2±3.5 | 2.18 | < 0.05* |

***Statistically significant differences at ($p \leq 0.05$)*

****Highly Statistically significant differences at ($p \leq 0.001$*

**Discussion**

The sexual function of women with uterine prolapse may be altered when there are symptoms such as; a protrusion in the vagina, feeling of pressure and heaviness, painful intercourse, poor self-perception of their general health, and so on. These symptoms may generate consequences that can directly affect their well-being and influence their sexual response, negatively interfering with quality of life. The present study aiming to evaluate the effect of mayan abdominal massage technique on sexuality and quality of life among women with uterine Prolapse.

***Regarding*** **to demographic characteristics of the study sample**, the findings of the current study pointed out that the mean age of the women was (43.7±8.4 years), most of them were moderately educated and housewives. Also, most of the women were multipara more than 4 times. This was in the same line with ***Fathi et al.,*** [21] who found that the mean age of childbearing women complaining of POP was (41.62 ± 5.0 years), most of women had moderate education and were housewives. Also the current finding was in agreement with ***Priyanka et al*** [22] who reported that uterine prolapse is most common in multiparous and post-menopausal women. While the prior study finding disagreed within Ethiopia by ***Mekonnen.*** [23] Who reported that about half of the studied women suffering from POP were in the age group of (20 to 35 yrs.) and reported that early marriage and high parity are the most leading determinants of POP among Ethiopian women. Also, the results of the current study were congruent with a study done by ***Puri,*** [24]**.** To determine prevalence, risk factors and traditional treatments of genital prolapse. The researcher found that more than three quarters of the studied women were multiparous, and more than two thirds of them had uterine prolapse after having more than four children.

This fact can be explained from the authors' point of view as aging is associated with falling in estrogen and collagen levels that result in weakened pelvic floor muscles and ligaments which consequently leading to an increase in the risk of uterine prolapse, also the high parity with vaginal delivery is a risk of uterine prolapse in younger people

that causes weakness and laxity of uterine support structures that represent precipitating factor of prolapse. Pelvic organ prolapse (POP) in Egypt tends to occur at earlier ages due to multi parity rate and early marriage.

***Concerning anthropometric measurement,*** it was found that, the mean weight of the women was 68.31±9.33Kg, while the mean height of them was 1.58±0.05 meter, as well as the mean Body Mass Index of them was (27.03±3.27). **this was consistent with *Özengin, et al,* [11],** who found that there was no difference found in terms of age and height of women with POP, but there is a statistical difference was determined in body weights (p=0.003) and BMI (p=0.011) of women with apical and anterior compartment prolapses. The researcher concluded that, parity, normal vaginal delivery, increased in age and BMI are the main risk factors for occurrence of POP.

***Regarding the symptoms of uterine prolapse as reported by women,*** the findgns of the current study showed that, more than half of the women were complaing from increase vaginal discharge, and low sexual self-esteem, and half of them were suffering of pain during intercourse, about one-third of them had low back pain, discomfort during walking, and vaginal flatulence, less than one-fourth of women were complaining of constipation, heaviness in the pelvis, and urinary tract infections, this symptoms were improvement after three month of practicing mayan massage technquie. This result was consistent with a randomized controlled trial study done by ***Glazener et al.,*** [25] to evaluate pelvic floor dysfunction, muscle training for stage I and II uterine prolapse . The reseracher reported that most of the studied women (above 80%) 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. More two thirds of them complained from bulging sensation, lower back pain and a heavy feeling in their pelvic region, and increase in vaginal discharge.

Also the findings of current study was supported with ***Farag et al.,*** [26] who found that majority of the women reported decrease in vaginal, sexual, urinary and bowel symptoms (90%, 87.5%, 82.5%, and 80% respectively), and also 85% of the women reported reduced in the degree of uterine prolapse. Furthermore, there was improvement in the associated symptoms of the uterine prolapse 29.3±5.9, 18.6±4.8 and 12.1±3.3 at before, one and three months after the intervention with (f=67.5 p=0.001). As well as, ***Hagen et al.,*** [27] who studied the changes in POP symptoms with the POP-SS questionnaire. The reseracher shown that pelvic floor muscle training significantly improved the symptoms associated with POP at 6, 12, and 24 months ($p < 0.0001$, $p = 0.0053$). In addition, ***Saad et al.,*** [28] found that women's genital prolapse manifestation as general, urinary, bowel, and sexual symptoms were improved more than 90% after three months of intervention.

***Concerning the sexual function,*** the current findings revealed that there was a highly statistically significant improvement in all sexual function domains following three months of intervention among the women as in sexual desire, arousal, orgasm, lubrication, satisfaction and pain at ($p < 0.05$). In addition, there was statistically significant improvement in the total female sexual function index mean score at (t= 8.5

& P=0.005) post three months of intervention. This finding was congruent with ***Abd elaziz,*** [29] who found that the means of the six domains of the female sexual function index (FSFI) and the total mean score were significantly different between study and control group (20.92, and 28.03 respectively) with (p <0.0001). Also, the researcher reflected that sexual complaints are common in women with pelvic floor disorders which has a major poor effect on the female sexual function.

Also, the present finding was agreement with ***Özengin et al.,*** [12] who reported that poor sexual function was more in anterior and apical compartments prolapse. Psychological factors such as change in body image that could occur in women with POP, physiologic factors such as anatomic anomalies and diminished sensitivity in the genital region can lead to stimulation and orgasm disorders in women. Furthermore, the present study finding was in agreement with ***Ali et al.,*** [4] who conducted a study on "effect of maya massage on relieving women's uterine prolapse manifestations", reported that 30.0% of the studied women have dyspareunia as severe manifestation of uterine prolapse. While, 40.0% of them have heaviness on pelvic area and back pain as moderate manifestation of uterine prolapse. Meanwhile, 30.0%, 70.0%, and 30.0% of them have feeling and seeing something on vagina and increase vaginal discharge as mild manifestation of uterine prolapse, and that there is a highly statistical significant difference between mean score of uterine prolapse manifestations before (13.8 ± 1.31) and 12 week after maya massage intervention (8.3 ± 0.48). The researcher add that, reducing sexual symptoms associated with prolapse leads to improved sexual function. This has been explained by the symptoms associated with uterine prolapse or displacement such as dyspareunia, feeling something in the vagina, and woman may feel of a lump/bulge in the vagina causing discomfort that can interfere with the entry of the penis into the vagina affecting orgasm and sexual function negatively. Displacement of the uterus coming down, pulling the ligaments, pedicles and peritoneum may also lead to a sensation of heaviness, which may interfere with sexual function.

***Concerning the health-related quality of life***; the present study findings indicated that uterine prolapse associated symptoms affect negatively the women quality of life. While, after three months of practicing mayan abdominal massage is associated with improvement in their quality of life with statistically significant improvements in general health and social limitation among the women at (P<0.05), also there were highly statistically significant improvement in other domains after intervention as effect of prolapse, role limitation, physical limitation, emotional stress, and sleep/energy at (P= 0.001). This finding was supported with a study conducted by ***Macêdo et al,*** [30] to determine factors associated with sexual activity for women with pelvic floor dysfunction. The researcher found that non-sexually active women with genital prolapse exhibited significantly impaired quality of life as compared to sexually active women. Also, it was similar with ***Due et al,*** [31] who conducted a study to evaluate the effects of structured lifestyle advice and pelvic floor muscle training for pelvic organ prolapse. The researcher reported that there was improvement in women quality of life after 3 and 6 months of intervention.

As well as, it was in accordance with ***Espiño-Albela, et al,*** [32] illustrated that the findings of their review showed a significant improvement in the symptoms associated with pelvic organ prolapse (POP) in women undergoing a pelvic floor muscle training (PFMT) protocol, including pelvic symptoms (pressure in the lower abdomen, feeling of heaviness in the pelvis, and feeling of a bulge in the vagina), urinary symptoms (stress urinary incontinence, urge urinary incontinence, sensation of incomplete bladder emptying, and pain when urinating), and bowel symptoms (constipation, fecal incontinence, gas incontinence, incomplete emptying of the bowel, pain when defecating, urgency, and bulging sensation in the anus). Improvements were also found in pelvic-floor function and in quality of life.

***In addition to Özengin et al.,*** [12] who conducted a study on a comparison between stabilization exercises and pelvic floor muscle training in women with pelvic organ prolapse, found that both training programs increased the pelvic floor muscle strength, provided a decline in prolapse stages, and has increased general health perception which improves quality of life. Furthermore, ***Panman et al,*** [17] reported that Pelvic organ prolapse (POP) is a serious public health problem that affects sexual function, quality of life, and psychological state; however, it is generally ignored by women. It was reported in that POP affected sexual function and life quality of women negatively. However, a limited number of studies have contributed data regarding how women are affected by POP in relation to the prolapse compartment.

**Conclusion**

Based on the results of the current study, it was concluded that Mayan abdominal massage technique, after three months of intervention, significantly improves sexual function and quality of life in women with uterine prolapse.

**Recommendations**

**In the light of the present study finding, the researchers recommended that:**

• Mayan abdominal massage, which is one of the most effective therapeutic methods for enhancing sexual function and quality of life for women complaining of uterine prolapse, should be discussed and trained in educational sessions.

- Other non-surgical therapies for relieving pelvic organ prolapse are still required.
- Further study is needed to evaluate the impact of sound body mechanics on second-degree uterine prolapse.

**References**

1. Devkota, HR., Sijali, TR., Harris, C., Ghimire, DJ., Prata, N., & Bates, MN. Bio-mechanical risk factors for uterine prolapse among women living in the hills of west Nepal: A case-control study. Women's health, 2020, 16, 1745506519895175.
2. Pere, M., & Gomelsky, A. Uterine Prolapse and Preservation Methods: a Literature Review. Current Bladder Dysfunction Reports, 2017, 12(1), 1-7.
3. Giamnini, A., Eusso, E., Gano, A., (2018). Current management of pelvic organ prolapse in aging women :EMAS clinical guide:2018, 110:118-123.
4. Ali, AESM., Ahmed Attia, A., Mohamed Ibrahim, R., &Talaat El-Sharkawy, A. Effect of Maya Massage on Relieving Women's Uterine Prolapse Manifestations. Egyptian Journal of Health Care, 2015, 6(1), 151-168.
5. Masenga, GG., Shayo, BC., &Rasch, V. Prevalence and risk factors for pelvic organ

prolapse in Kilimanjaro, Tanzania: a population based study in Tanzanian rural community. PloS one, 2018, 13(4), e0195910.

6. Badacho, AS., Lelu, MA., Gelan, Z., &Woltamo, DD. Uterine prolapse and associated factors among reproductive-age women in south-west Ethiopia: A community-based cross-sectional study. 2022, PloS one, 17(1), e0262077.
7. Cleveland clinic. Uterine Prolapse. https://my.clevelandclinic.org/health/diseases/1 6030-uterine-prolapse .2021.
8. Chen CJ, Thompson H. Uterine Prolapse. Stat Pearls [Internet]. 2020 Nov 19. Available from:https://www.statpearls.com/ArticleLibrary /viewarticle/30897 (accessed 4.4.2021)
9. Fatton, B., de Tayrac, R., Letouzey, V., & Huberlant, S. Pelvic organ prolapse and sexual function. Nature Reviews Urology, 2020, 17(7), 373-390.
10. Özengin, N., Yıldırım, NÜ., & Duran, BA. comparison between stabilization exercises and pelvic floor muscle training in women with pelvic organ prolapse. Turkish Journal of Obstetrics and Gynecology, 2015, 12(1), 11.
11. Bajracharya RA: Uterine prolapse: A hidden tragedy for women [Online].2016, [Nov 23]; Available from:URL: http://www.Shvoon g.com/me dicine and health /gynaeology/1711392.
12. Özengin, N., Çankaya, H., Duygu, E., Uysal, M. F., & Bakar, Y. The effect of pelvic organ prolapse type on sexual function, muscle strength, and pelvic floor symptoms in women: A retrospective study. Turkish journal of obstetrics and gynecology, 2017, 14(2), 121.
13. Hut, M.A. Modern Midwife's Experience with Ancient Maya Techniques of Abdominal/Uterine Massage, Alternative And Complementary Medicine Journal;2014, 58(29): PP4-6.
14. Burchett, TS. Efficacy of the Arvigo Techniques of Maya Abdominal Therapy on Dysmenorrhea Symptoms in Women.2013.
15. Tilbury,J., Mayan Abdominal Massage: Arvigo Therapy. International Journal of Obstetrics; 2012,7 (42):P9.
16. WHO, World Health Organization: Genitourinary prolapse, available at; Patient info/doctor /genitourinary -prolapse –pro
17. Panman, CM., Wiegersma, M., Kollen, BJ., Berger, MY., Lisman Van Leeuwen, Y., Vermeulen, KM., & Dekker, J H. Two-year effects and cost-effectiveness of pelvic floor muscle training in mild pelvic organ prolapse: a randomised controlled trial in primary care. BJOG: An International Journal of Obstetrics & Gynaecology, 2017, 124(3), 511-520.
18. Rosen, C. Brown, J. Heiman, S. Leiblum, C. Meston, R. Shabsigh, D. Ferguson, R. D'Agostino, R. "The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function." Journal of sex & marital therapy 26.2 (2000): 191-208.
19. Lenz, F., Stammer, H., Brocker, K., Rak, M., Scherg, H., & Sohn, C. Validation of a German version of the P-QOL Questionnaire. International Urogynecology Journal, 2009, 20(6), 641-649.
20. Tavakol, M., &and Dennick, R. Making sense of Cronbach's alpha. International Journal of Medical Education. 2011, 2:53-55. ISSN: 2042-6372.
21. Fathi Mohammed, R., D Mohammed, M., & Hassan Abd El-Rahim, A. Determinants and Symptoms Severity of Pelvic Organ Prolapse and Its Effect on

Physical Activities among the Elderly versus Childbearing Women. Egyptian Journal of Health Care, 2021, 12(1), 664-685.

22. Priyanka, A., Kaur, S., Singh, A., Aggrawal,N. A pre-experimental study to assess The effectiveness of nursing intervention package on management of pelvic organ Prolapse among women, Nursing and Midwifery Research Journal, 2018,No.3,pp.131143.
23. Mekonnen, BD. Prevalence and Factors Associated with Uterine Prolapse among Gynecologic Patients at University of Gondar Comprehensive Specialized Hospital. Women's Health Medicine, 2020, 16(1).
24. Puri R. Prevalence, risk factors and traditional treatments of genital prolapse in Manma, Kalikot district, Nepal: a community based population study.2016.
25. Glazener, C; Sinclair, L; Ramsay ,I Hagen, S; Stark ,D. A randomized Controlled trial of pelvic floor Dysfunction, muscle training for stage I and II uterine prolapse, Int Urogynecol J, 2017, 20: 45–22 51.
26. Farrag, RE., Mostafa, H., & Badran, H. Evidence Based Nursing Intervention: its Effect on Relieving Women's Uterine Prolapse Symptoms and Degree.2019.
27. Hagen, S., Glazener, C., McClurg, D., Macarthur, C., Elders, A., Herbison, P., & Logan, J. Pelvic floor muscle training for secondary prevention of pelvic organ prolapse (PREVPROL): a multicentre randomised controlled trial. The lancet, 2017, 389(10067), 393-402.
28. Saad, MSF., Moniem, EF A., Farrag, REHE., & Badran, HM. The Effect of Instructional Guidelines on Women that Suffer from Genital Prolapse. Journal of Language and Health, 2021, 2(2), 53-64.
29. Abd Elaziz, M.. Is the Female Sexual Function Affected by the Vaginal Wall Prolapse? Suez Canal University Medical Journal .2015, Vol. 16 (2), 2013, P
30. Macêdo, SR., Vasconcelos Neto, JA., Tamanini, JTN., Bezerra, L., & Castro, RA. Factors Associated with Sexual Activity for Women with Pelvic Floor Dysfunction-A Cross-Sectional Study. Revista Brasileira de Ginecologia e Obstetrícia, 2020,42, 493-500.
31. Due, U., Brostrøm, S., & Lose, G. The 12-month effects of structured lifestyle advice and pelvic floor muscle training for pelvic organ prolapse. Acta Obstetricia et Gynecologica Scandinavica, 2016m 95(7), 811-819.
32. Espiño-Albela, A., Castaño-García, C., Díaz-Mohedo, E., & Ibáñez-Vera, A J.ffects of Pelvic-Floor Muscle Training in Patients with Pelvic Organ Prolapse Approached with Surgery vs. Conservative Treatment: A Systematic Review. Journal of Personalized Medicine, 2022, 12(5), 806.