


Review

Pelvic Organ Prolapse and Sexual Dysfunction

Francisco E. Martins 

Departamento de Urologia, Centro Hospitalar Universitário de Lisboa Norte, Hospital Santa Maria,
Av. Prof. Egas Moniz MB, 1649-028 Lisbon, Portugal; faemartins@gmail.com

Abstract: Introduction: This narrative review aims to investigate the intricacy of human sexuality, the prevalence and effect of pelvic organ prolapse (POP) repair on overall sexual function and dyspareunia, and the subsequent repercussions on body image self-perception and quality of life. **Methods:** A MEDLINE and PUBMED search was conducted for studies evaluating the effect of POP surgery on sexual function and dyspareunia in sexually active women as well as its impact on body image self-perception and QoL. We included both observational and randomized controlled studies evaluating this subject. We evaluated patients who underwent anterior and/or posterior compartment repair eventually including vaginal hysterectomy. We excluded studies including women with concomitant anti-incontinence surgical correction and/or any vaginal reconstruction with synthetic materials. **Results:** Women with POP are more likely to diminish sexual activity due to a perceived impact on body image and attractiveness as well as worry of incontinence. Conservative management (such as pelvic floor muscle physiotherapy or pessary use) or surgical intervention via transabdominal or transvaginal routes have been used to treat POP, but concerns remain regarding sexual consequences. Despite a post-surgical positive sexual outcome, there is an inherent risk of de novo dyspareunia regardless of the surgical technique employed with slightly higher risk for the transvaginal approach. Patient counselling prior to surgery has proved to be an important element of POP treatment. Only studies on complications of POP surgery, specifically its impact on female sexuality, dyspareunia, global quality of life, and self-perceived body image, were included and analyzed for this review. We limited our search to the international English language literature published over the last three decades and excluded all studies involving the use of synthetic material in transvaginal POP repair. **Discussion and Conclusions:** Although no consistent evidence was found that disorders of the pelvic floor in women have a clear adverse effect on sexuality, their anatomical correction using the patient's native tissues is recommended. Dyspareunia reduced significantly after repair, but the rate remains higher after the transvaginal approach versus the minimally invasive (robot-assisted and laparoscopic) approach used for sacrocolpopexy.



Academic Editors: Peter C. Black and
Lysanne Campeau

Received: 22 April 2024

Revised: 30 October 2024

Accepted: 26 November 2024

Published: 18 February 2025

Citation: Martins, F.E. Pelvic Organ Prolapse and Sexual Dysfunction. *Soc. Int. Urol. J.* **2025**, *6*, 19. <https://doi.org/10.3390/siuj6010019>

Keywords: pelvic organ prolapse; female sexual dysfunction; dyspareunia; anterior compartment repair; posterior compartment repair

Copyright: © 2025 by the author.

Published by MDPI on behalf of the
Société Internationale d'Urologie.

Licensee MDPI, Basel, Switzerland.

This article is an open access article
distributed under the terms and
conditions of the Creative Commons
Attribution (CC BY) license

(<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Sexual health, or function, usually is defined as how an individual (male or female) reacts to the different stages of the sexual response cycle and subsequently experiences sexual pleasure and satisfaction. It translates into women's mental and physical health as well as QoL. Sexual problems may affect women with POP and also following pelvic surgical reconstruction. POP remains a prevalent problem, especially after childbirth. Estimates suggest that about 50% of women who have given birth and are aged more

than 50 years have pelvic organ prolapse [1–5]. Although not all experience symptoms with relevant impact on POP and, therefore, may not need specific treatment, it has been estimated that about 10% of these women will need surgical correction in their lifetime [1,2]. POP can negatively impact QoL in different ways, specifically sexual dysfunction and dyspareunia [6,7]. POP can limit sexual activity due to self-perceived negative impact on body image and attractiveness, variable discomfort during intercourse, and also fear of incontinence and climacturia.

The influence of POP surgery on symptomatic improvement has been widely investigated, but less so on sexual function and dyspareunia. An adequate functional vagina for sexual intercourse depends on normal anatomy and neurovascular physiology. Although POP would intuitively affect female sexuality, the nature of that relationship has not been clarified [8]. Until up to 15 years ago, sexual function was mostly underreported, and the focus was exclusively on anatomical restoration and avoiding recurrence [9]. Different factors make this a difficult area to investigate, especially the multi-faceted and complex nature of sexual function and the flexible definitions of normality and abnormality. In a cross-sectional study involving women with and without POP performed by Weber et al., 1995, the authors did not detect any robust difference in the majority of sexual function variables [10].

POP surgery, especially using the vaginal approach, has been long considered harmful to female sexual function. Up to less than two decades ago, the introduction and rapid expansion of synthetic mesh material to optimize anatomical outcomes of POP repair led to an array of complications such as local intolerance, wound healing problems, mesh retraction, locoregional sepsis, and loss of vaginal wall suppleness. These local changes in the vaginal anatomy and physiology were capable of inducing vaginal pain and dyspareunia.

In the last years, the advent and widespread use of validated questionnaires to evaluate the effect of surgery on female sexual function and QoL has proved to be particularly meritorious. It is acknowledged that the success of POP surgery in reverting the pelvic floor anatomical changes must be based on established anatomical criteria according to the classification of the Pelvic Organ Prolapse Quantification (POP-Q) [11]. However, this evaluation should include symptoms and quality-of-life scores.

Improvement in sexual function is often expected after POP surgery. However, a risk of de novo dyspareunia exists regardless of the technique employed with slightly increased incidence with the vaginal approach. Patient counselling before surgery and a multidisciplinary approach are critical in the management of POP and avoidance of post-operative complications.

2. Prevalence and Epidemiology of POP

POP prevalence is influenced by several factors such as the presence of symptoms, age, history of simple or complicated vaginal deliveries, anatomical criteria used to quantify POP, or a combination of the abovementioned factors. The recent literature has reported on POP prevalence ranging from 2.9% to 11.4% based on data obtained from questionnaires evaluating symptoms and/or quality of life [12]. However, significantly higher prevalence rates of 31.8% to 97.7% were found when tools evaluating anatomical criteria such as standardized pelvic examination and, since 1995, the Pelvic Organ Prolapse Quantitation (POP-Q) classification system were included [3,13]. In 2016, Zeleke et al. published a community-based study on pelvic floor disorders involving women aged from 65 to 79 years. They reported a prevalence of symptomatic POP of 6.8% [14]. In a cross-sectional study of a general female population and using as definition for POP “feeling and/or seeing a vaginal bulging”, the reported prevalence was 12.1% [12]. Age and type or degree

of POP are other variables that influence POP prevalence. However, the prevalence of high-grade POP (POP stage 3 and 4 with leading edge extending between 1–2 cm beneath the hymen, and vaginal eversion, respectively, by the POP-Q classification) in the general population is exceptionally low, varying from >1% to 14% among symptomatic women, and surpassing 70% in women requiring surgery [4,15,16].

The pathophysiology of POP is intricate and based on multiple factors [17,18]. The primary risk factors for POP occurrence or recurrence are a history of multiple parity, vaginal delivery, transvaginal surgery, advancing age, defecatory dysfunction, sedentary lifestyle reported, and preoperative stage [19].

Several parameters will dictate the selection of the type of treatment, including symptom severity and their effect on quality of life, anatomic characteristics of POP such as the type of vaginal compartment involved and stage, the patient's expectations, presence of comorbidities, and history of previous treatments [20]. The goal of POP repair is to restore normal pelvic support and anatomy and eliminate or alleviate bothersome symptoms. Danish researchers estimated a lifetime risk of 26.9% in 1978 for an 80-year-old woman to require surgery for POP in Denmark [21]. Similarly, low rates of 19% between 2001 and 2005 were observed in Australia and 12.6% between 2007 and 2011 in the USA [22,23]. Notably, these incidences of POP surgery decreased about 30% in younger women (<55 years of age). The reason for this significant drop in young women undergoing POP surgery in the latter years could be attributed to the fact that a growing number of gynecologists opted for deferring surgery until later in life to avoid sexual dysfunction as this is known to occur after POP surgery [21].

3. Treatment of POP

3.1. Conservative Management Options, Including Pelvic Floor Muscle Physiotherapy and Pessaries

Treatment depends on the severity of symptoms, type, and grade of POP as well as presence of any medical co-morbidities. Therapeutic intervention is not required for women with clinically asymptomatic or non-bothersome POP. Patient education and reassurance of symptoms related to POP, especially associated with urination and defecation, risk factors for and prophylactic precautions to avoid POP worsening, including lifestyle modifications (such as avoidance of heavyweight lifting and strenuous exercise, treatment of chronic constipation, and smoking discontinuation) and eventual topical estrogens should be discussed and offered to patients [24]. However, observation should not be recommended in the presence of recurrent lower urinary tract infections, hydronephrosis due to ureteral kinking or reflux due to bladder outlet blockage and severe vaginal or cervical erosion, ulceration, and/or infection. Other non-invasive options such as pelvic floor muscle exercises (PFMEs) and/or intravaginal supporting devices (pessaries) may be indicated.

Pessary use and pelvic floor muscle exercises are conservative management options with shown efficacy, at least in cases of mild-to-moderate POP [25,26]. However, no improvement was evident in the degree of POP on vaginal examination [26]. Regular PFMEs with eventual biofeedback should be initially supervised by physiotherapists with specialized training in pelvic floor muscle dysfunction for independent use at home. Pessaries are mechanical devices that are inserted into the vagina to restore prolapsed vaginal tissue and thus decrease pressure on the lower urinary and intestinal tracts with subsequent POP symptom improvement [27]. Pessaries exist in different shapes and sizes and represent an efficient conservative option for women unwilling or who are not candidates to undergo surgery.

3.2. POP Surgery

Surgical repair is indicated in patients with bothersome symptoms of POP, especially in those who have failed or refused conservative, nonoperative options. About 12.5% of females suffering from POP in the USA will require surgery by the age of 80 [28]. It is also estimated that up to 10% of these women requiring POP surgery will need a second procedure [19]. In other studies, 13% of women who undergo POP surgery will need to repeat this surgery within 5 years only and up to 29% will need another POP repair in their future [29,30].

The objective of POP surgery is to restore normal anatomy and function and alleviate symptoms. Women can develop POP of a single or more vaginal compartments and surgery should address all anatomical defects. Several reconstructive techniques have been used for POP treatment and are categorized into two main groups depending on their approach: abdominal and vaginal procedures. However, surgical variations combining vaginal and abdominal were popular in the 1990s. The main example of this combined approach was vaginal posterior colporrhaphy and abdominal sacral colpopexy. The surgical type and approach (vaginal or abdominal) should depend upon the compartment affected, POP severity, bothersome symptoms, the patient's age and comorbidities, the patient's preference, and the surgeon's experience.

Vaginal POP surgery is preferentially recommended to older women (over 75 years old and with medical comorbidities). It can be categorized into obliterative and reconstructive surgical procedures. Obliterative operations should be reserved for women with medical comorbidities and thus considered high-risk surgical patients and those who are not interested in pursuing vaginal sexual activity. POP surgical repair through a vaginal approach includes vaginal hysterectomy, vaginal colpopexy for the treatment of apical or middle compartment prolapse, anterior colporrhaphy for cystocele or anterior compartment prolapse, and posterior colporrhaphy for rectocele or posterior compartment defect. Vaginal reconstructive procedures can employ native tissues or synthetic mesh, although the latter has been mostly discontinued worldwide due to increased and unacceptable complications. Abdominal procedures include sacrocolpopexy (the gold standard of the abdominal approach) and are usually the preferred option for sexually active women predominantly less than 65 years old. They can be open, laparoscopic, or robot-assisted and include abdominal hysterectomy and abdominal sacral colpopexy. The detailed description of these operations is beyond the scope of this review and, therefore, will not be included. However, it was reported that abdominal sacral colpopexy had a lower rate of post-surgical failure, recurrence, and dyspareunia [31]. The vaginal approach was also associated with lower short-time morbidity, but this apparent advantage must be weighed against the higher risk of POP recurrence [19,32–34]. Several factors should favor an abdominal approach to POP surgery such as intra-abdominal disease, short vaginal length, or presence of adverse factors for POP recurrence including age under 60 years, more severe POP (grades 3 or 4), and obesity (BMI > 26 kg/m²) [24,35].

3.3. Grafts

Grafts can be used in POP surgery for any of the three compartments, either alone or in combination. Grafts can be grouped as autologous, allografts (cadaveric), xenografts (animal), and synthetic grafts. Serious synthetic mesh-related complications resulting from anterior compartment repair may include mesh extrusion in 11.4%, 6.8% requiring surgical revision. Other significant complications were previously reported in the literature, including higher incidence of POP when compared to native tissue repair [34]. Similarly, middle (apical) compartment POP repair can utilize any graft type (native, biologic, or synthetic). Studies have demonstrated that mesh abdominal sacrocolpopexy is associated

with a much higher rate of anatomic success versus the vaginal approach. However, more post-surgical complications such as ileus or small intestinal obstruction, thromboembolic incidents, mesh- or suture-related complications, and an increased reoperation rate resulting from vaginal and visceral erosion, mesh exposure, and even sacral osteitis have been reported [35]. POP repairs of the posterior vaginal compartment are no longer performed with graft material, especially synthetic mesh, due to severe complications similar to or even more severe than those that occurred in other compartments.

The quick escalation of severe mesh-related complications has led to the US Food and Drug Administration releasing a public health notification in 2011 identifying serious safety apprehensions concerning its use for transvaginal repair of POP, which culminated with a ban on its use [36,37]. Nearly all transvaginal synthetic materials produced for POP surgery were discontinued from the market worldwide. The FDA guidelines do not recommend surgical removal in asymptomatic patients who are not experiencing any serious side effects. However, these women must be followed up and should be strongly recommended to report any new vaginal or urologic symptoms [38]. Interestingly, these FDA advertisements and health warnings did not apply to use of mesh material for transvaginal sub-urethral placement for stress incontinence or transabdominal POP repair because of its reduced risk of complications related to mesh with either approach for these specific indications.

Chronic steroid use, current smoking habits, or immunocompromised conditions are significant risk factors for synthetic mesh-related complications. Therefore, patients with these risk factors should be candidates for biologic or autologous grafts, or for POP reconstruction with use of native tissue [24].

3.4. Hysterectomy or Hysteropexy

Uterine prolapse can be treated by hysterectomy or hysteropexy. Hysterectomy alone is usually not sufficient to correct uterine prolapse. Vaginal apex suspension should be performed concomitantly with hysterectomy to minimize the chance of POP recurrence. In a comparative analysis, Eiber KS et al. concluded that the reoperation rate was reduced considerably if a vaginal apical suspension was simultaneously performed versus vaginal anterior support alone (20.2% vs. 11.6%; $p < 0.01$, respectively) [39]. Options for hysteropexy include vaginal sacrospinous hysteropexy, uterosacral ligament hysteropexy via transvaginal, laparoscopic, or robot-assisted approaches, and sacral hysteropexy via the abdominal, laparoscopic, or robot-assisted routes [24]. If women still desire to preserve their uterus, then hysteropexy is indicated. In a systematic and meta-analysis, the difference in the short-term between POP surgeries with uterine preservation and POP surgeries with concurrent hysterectomy was nonsignificant [40].

3.5. Colpocleisis

This surgical option is best suited for women with symptomatic POP, with serious comorbidities prohibiting major surgeries including hysterectomy, and who are not sexually active or interested in vaginal preservation. Colpocleisis is an obliterative surgery of the vaginal canal aiming to correct vaginal apex prolapse. It combines therapeutic effectiveness, increased patient satisfaction, and highly acceptable success rates with negligible recurrence risk. Patients should be informed that this is an irreversible operation. A major concern related to this procedure is the fact that the uterus becomes difficult to access.

4. Evaluation of the Impact of Pelvic Organ Prolapse on Sexuality

4.1. Evaluation of Female Sexuality

Sexuality in women with pelvic floor disorders and vaginal prolapse can now be evaluated with several validated questionnaires mentioned in Table 1 [1,41]. These questionnaires are recommended by the main international societies involved with research, diagnosis, and treatment of female pelvic floor pathologies, such as the International Continence Society (ICS) and others [42,43]. These questionnaires have shown significant variability, shortcomings, and weaknesses in their purpose including standardized terminology both for vaginal-specific and POP-specific symptoms as well as symptoms related to postoperative sexual dysfunction. Therefore, a consensus was important to achieve to solve the lack of uniformity, which has led to confusion and unexpected ambiguity. In 2018, the IUGA-ICS produced a terminology report based on broad consensus regarding sexual health in women with pelvic floor dysfunction, which included standardized terminology for specific problems [44]. New instruments such as condition-specific sexual questionnaires have recently been developed to better evaluate the impact of incontinence and prolapse surgery on sexual function [45]. However, in 2010, terminology for pelvic floor dysfunction in women had already been produced by the same society (IUGA-ICS) [46]. This 2010 version was updated later in 2018 by a female-specific approach and clinically based consensus report, which is still in practice today [44].

Table 1. Important Questionnaires for the Evaluation of Female Sexual Dysfunction (by chronological order of development).

Evaluation Tools	Evaluation Targets	Number of Items	Condition-Specific	Year of Production
GRISS (Golombok-Rusk Inventory of Sexual Satisfaction)	Evaluation of severity of sexual problems (anorgasmia, vaginismus, ejaculatory dysfunction, sex avoidance, dissatisfaction)	28	No	1985/1986
ICIQ-FLUTsex (BFLUTS) International Consultation on UI Questionnaire – Female Sexual Symptoms Associated with LUTS)	Evaluation of female sexual variables related to LUTS and bother	4	Yes	1996
FSFI (Female Sexual Function Index)	Evaluation of several variables of female sexuality	19	No	2003
PISQ-12 (POP/UI Sexual Questionnaire-12)	Evaluation of female sexuality with concomitant UI and POP	12	Yes	2003
ICIQ-VS (International Consultation on Incontinence Questionnaire-Vaginal Symptoms module)	Evaluation of impact of vaginal symptoms on sexual QoL	14	Yes	2005

Table 1. Cont.

Evaluation Tools	Evaluation Targets	Number of Items	Condition-Specific	Year of Production
PISQ (POP/UI Sexual Questionnaire)	Evaluation of female sexuality with concomitant UI, POP, anal incontinence, and women without sexual activity	31	Yes	2009
PSIQ-IR	Evaluation of female sexuality with concomitant UI and POP, including anal incontinence and women with no sexual activity	33	Yes	2013
SFEQ-16 (Sexual Function Evaluation Questionnaire)	Evaluation of the impact of OAB on sexual health parameters in the male and female populations	16	Yes	2022
SQOL-F (Sexual Quality of Life-Female questionnaire)	Evaluation of the impact of female sexual dysfunction on QoL	18	Yes	2022

OAB, overactive bladder; QoL, quality of life. Adapted and modified from [44].

4.2. Impact of POP on Sexuality

Although common and not life-threatening, it has a significant repercussion on a patient's QoL. Sexual health is a vital element of women's general well-being. Both in clinical practice and research, its symptoms must be well-defined and their impact must be evaluated objectively (Table 2). Sexual function questionnaires constitute the chief valid and reliable instruments to estimate the presence, severity, and impact of pelvic floor symptoms on sexuality and well-being. Sexual function questionnaires may be ad hoc questionnaires or condition-specific validated tools. The analysis of the impact of POP on sexuality is complex due to the intricate nature of the human sexual function and, therefore, dependent on several variables (both personal and environmental) that carry a significant impact [45]. The outcome of this intricate nature of sexual function may translate into conflicting results reported in the literature. Some data in the literature challenge a consistent negative effect of POP on sexuality [1]. Rogers et al. reported that POP is more likely to induce sexual inactivity than urinary incontinence [46]. Others reported that libido is more significantly reduced in women with concomitant urinary incontinence than in those with POP [47]. On the other hand, Jhia S et al. found no difference in the global impact on sexuality when POP and urinary incontinence were compared [48]. However, women with POP avoided intercourse more commonly than women with urinary incontinence (73% versus 36%), the same fact occurring with their partners (50% versus 24%) [48].

Table 2. Sexual dysfunction symptoms reported after surgical repair.

Symptom	Comments
De novo symptoms of sexual dysfunction	New-onset sexual dysfunction symptoms (not reported pre-operatively)
De novo dyspareunia	Dyspareunia first reported after surgical repair or other interventions
Shortened vagina	Perception of a short vagina expressed by the woman or her partner
Narrowed vagina	<ul style="list-style-type: none"> - Narrowed introitus: difficult or impossible vaginal penetration (by penis or sexual device); - Narrowed vagina: decreased vaginal caliber
Scarred vagina	<ul style="list-style-type: none"> - Narrowed introitus: difficult or impossible vaginal penetration (penis or sexual device); - Narrowed vagina: decreased vaginal caliber
Hispareunia	Pain during intercourse reported by male partner after female reconstructive surgery

Adapted and modified from "Specific postoperative sexual dysfunction symptoms" from the International Urogynecological Association (IUGA)—International Continence Society (ICS). Adapted and modified from [44].

4.3. Sexuality and Self-Perceived Body Image

The incidence of sexual dysfunction in women with POP has been associated with patient personality. Besides physical factors, other important variables such as psychological aspects, genital self-image, and sociocultural factors may interfere with individual sexuality and sexual behavior. Dheresa M et al. evaluated the prevalence of sexual dysfunction in association with pelvic floor disorders in 2389 women in the rural community of Kersa, Ethiopia, using the FSFI questionnaire. They found that half of the women had sexual dysfunction that was significantly related to pelvic floor disorders [49]. Yakoobi T et al. suggested a statistical path analysis model to support the important role of personality traits in patients' self-reporting on pelvic floor disorders and the impact of these traits on psychological distress. They concluded that the best treatment for pelvic floor symptoms should include psychological interventions besides conventional medical or surgical therapy to help reduce psychological distress associated with pelvic organ prolapse [50]. A comprehensive therapeutic plan for pelvic floor dysfunction should include both psychological and medical interventions aimed to address and benefit all patients' personality traits [50]. This could be accomplished by including behavioral health practitioners and psychologists into clinics treating female pelvic floor disorders [51].

4.4. Impact of POP Treatment on Female Sexuality

The impact of POP on sexual function did not receive relevant attention until the introduction and widespread use of synthetic mesh material for the transvaginal correction of POP and urinary incontinence. Due to the significant postoperative morbidity related to the use of these transvaginal meshes, sexual function gained attention from pelvic reconstructive surgeons and became a key element in the analysis of postsurgical outcomes. Although anatomical outcomes remain crucial, functional outcomes take the major role in terms of success perceived by the patient, because the ultimate and decisive goal of surgery is to improve well-being and QoL. The surgical treatment of POP is based mainly on its effect on sexual function, which often does not correlate with the anatomical severity of POP, although bulging of any vaginal compartment beyond the introitus is considered a

worsening factor. Patients tend to consider the absence of symptoms related to vaginal bulging postoperatively as important overall improvement, more so than anatomical success alone [52].

Most authors currently suggest that the evaluation of POP surgery outcomes should incorporate the use of composite outcome measures instead of anatomical or functional criteria alone for a more detailed outcome of the procedure evaluation based on anatomy and function [53]. Composite outcome procedures invariably assess functional impact (e.g., feeling of a vaginal mass or pelvic discomfort or weight) and an anatomical change. Traditionally, the vaginal introitus is considered as the anatomical boundary for surgical success. Any prolapse proximal to the introitus is regarded as good anatomical result and prolapse beyond this anatomical limit is regarded as surgical failure.

Although there are no robust guidelines in terms of postoperative evaluation and surveillance, it has been globally accepted that the most reasonable period for outcome assessment ranges from 6 to 12 months postoperatively [54]. This time frame is adequate for postoperative recovery and allows return to sexual activity. It was suggested that waiting longer may allow other intercurrent factors related to menopausal status and ageing (e.g., vaginal dryness, etc.), which could interfere with the outcome evaluation. This period may be prolonged if an abdominal procedure, especially with synthetic mesh, is undertaken such as in the case of sacral promontofixation with mesh. In the randomized CARE trial, the mesh or suture erosion following sacral promontofixation was 6% and 10.5%, respectively, at 2 and 7 years after surgery [35]. Mesh-related surgery complications have been reported in 2.8% of patients following laparoscopic sacrocolpopexy after a mean follow-up of 4 years [55]. Mesh erosions have been frequently reported up to 7–8 years postoperatively [56–58]. In 2014, Sarlos D. et al. reported an increase rate in de novo dyspareunia from 2.1% at 1 year to 24.4% at 5 years following surgical repair [59]. However, the authors could not demonstrate that this deterioration resulted from surgery alone.

After surgery for pelvic floor disorders, patients questioned the most appropriate timing to resume sexual activity [54]. Current recommendations lack solid scientific data as they reflect mainly expert opinion. The fear of resuming sex too soon is related to the likelihood of disrupting sutures, leading to vaginal dehiscence, with a subsequent increased risk of overall surgical failure and pelvic pain or discomfort, bleeding, and other symptoms [54]. On the other hand, restarting sex too late might cause anxiety, affect libido, and ultimately cause patients to avoid or reject intercourse. Most commonly, a period of 4 to 6 weeks is recommended by most surgeons to resume sexual activity postoperatively [54].

4.5. Sexuality After POP Surgery

Sexual function parameters generally improve after surgical repair in the majority of women (Table 3) [60]. In 2018, Tyagi V et al. described an improvement in sexual activity at 6 months following surgery, regardless of the type of repair performed and the patient's gynecological history [60]. Nonetheless, the effect on sexual function might vary depending on the type of surgery performed. This effect on sexuality is usually minimal in sexually active women. However, in a small percentage (<10%), women tend to avoid sexual activity after surgery [61]. These improved anatomical and functional results may occur even in higher risk patients who developed prolapse recurrence [62]. Some women may avoid sexual intercourse due to psychological issues, fear of recurrence, or just as a reason to pursue a conjugal life without sexual activity [1].

Table 3. Two randomized controlled trials of vaginal repair versus abdominal repair.

Vaginal Group					Abdominal Group				
Surgery	N	Sexually Active Preop.	Sexually Active Postop.	Sexual Outcome	Surgery	N	Sexually Active Preop.	Sexually Active Postop.	Sexual Outcome
SSF	48	31 (dyspareunia 20%)	17	Cure of dyspareunia: 43%. De novo dyspareunia: 3	ASCP	47	29 (dyspareunia: 20%)	19	Cure of dyspareunia: 56%. De novo dyspareunia: two pts.
TVM repair	128	Not reported	61	Dyspareunia and apareuniadue to pain: 18/61 (29.5%)	LSCP	129	Not reported	71	Dyspareunia and apareunia due to pain: 10/71 (14%)

ASCP, abdominal sacrocolpopexy; LSCP, laparoscopic sacrocolpopexy; SSF, sacrospinous fixation; TVM, transvaginal mesh. Adapted and modified from [44].

The effects of both hysterectomy and uterus preservation have been studied. However, the results have been controversial, especially the concomitant effect of hysterectomy with or without cervical preservation. Some authors report no effect on sexuality as long as the principles of good practice are preserved [63–65]. Most studies could not show any significant difference in terms of sexual outcomes when the authors compared the techniques of uterus preservation (hysteropexy) versus ablation (hysterectomy) as well as total and subtotal hysterectomy [66,67]. Both procedures reduced dyspareunia without negatively impacting patients' sexual function. Therefore, it is not justifiable to recommend one procedure over the other based on deleterious effects upon sexuality and QoL. However, Constantini E et al. reported that POP plays a role in female sexuality and uterus-preserving surgery to treat POP is related to a significant improvement in several domains of female sexuality including desire, arousal, and orgasm [68]. Uterus preservation may strengthen women's perception of femininity after POP repair [69]. It is crucial to discuss the psychological effects of hysterectomy such as severe depression with secondary impact on sexual function and female identity [70]. Women should be cautioned that they might be at an increased risk of psychosexual consequences after hysterectomy versus a less invasive surgical approach.

POP surgery usually causes some reduction in vaginal length, more so after vaginal surgery compared to an abdominal approach [71,72]. Iven Jr et al. recommended the use of an abdominal approach (sacral colpopexy) to correct complete uterovaginal eversion if maximum vaginal length was the main objective. Nonetheless, vaginal length after surgery did not correlate with sexual satisfaction. Symptomatic vaginal length reduction or narrowing is extremely rare and is usually associated with multiple vaginal surgeries, especially involving posterior repair [73]. In a meta-analysis, Jha and Gray investigated the impact of transvaginal repair using native tissue on sexuality. The authors excluded trials that combined stress incontinence surgery and POP reconstruction, or post-hysterectomy prolapse reconstruction, which were deemed as failures/recurrences. Several questionnaires were utilized before and after surgery [48]. The authors studied 520 women and compared their sexual scores which revealed an improvement in overall sexuality, with a standardized mean difference of -0.55 (-0.68 to -0.43) all in favor of surgery when compared with scores before surgery. Several publications analyzed preoperative and postoperative dyspareunia and reported a 47% improvement rate after surgery. Thirty-nine percent of women did not experience any change and in 18% dyspareunia was aggravated

(with de novo dyspareunia in 4%). Thus, the conclusion was that there was a 4.8-fold likelihood for patients' improvement after surgery in terms of dyspareunia [48].

It is also important to evaluate sexual outcomes after apical prolapse surgical repair, especially after sacrospinous ligament fixation or uterosacral ligament suspension, procedures which have been considered as standard reconstructive techniques for apical prolapse repair using the transvaginal route. In a prospective multicenter randomized trial involving comparing uterosacral ligament suspension versus sacrospinous ligament fixation, the dyspareunia rate decreased from 25% at baseline to 16% at 2 years post-operatively [74]. The use of native tissue in vaginal prolapse surgery has been shown to result in statistically and clinically significant improvements in overall sexual parameters, QoL, and body image at 2 years postoperatively with no meaningful differences between uterosacral and sacrospinous suspensions. One in 10 women reported de novo dyspareunia but treatment was necessary in a few only [75].

Surgical repair of the posterior compartment prolapse needs specific attention as the standard posterior colpoperineorrhaphy has often been associated with postoperative pain and de novo dyspareunia [76]. However, it was reported that these surgical procedures correct posterior vaginal prolapse in 76% of women with minimal beneficial impact on bowel and sexual dysfunction. Therefore, this suggests the need for better bowel studies for some patients preoperatively [76]. Indeed, some authors reported de novo dyspareunia in 16% to 26%, especially if combined with Burch colposuspension for stress urinary incontinence [76,77]. In 2015, Ulrich D et al. reported that levator muscle plication combined with posterior vaginal repair can increase postoperative dyspareunia and decrease sexual function [78]. These negative functional changes were related to a decrease in introital caliber postoperatively and was considered a reliable predictor of dyspareunia as this anatomical change occurred in 33% of women complaining of dyspareunia compared with only 6% of women who did not [77]. This finding led to a considerable reduction in the use of levator myorrhaphy over at least the last two decades being replaced by pre-rectal fascial repair and site-specific repair [79–81]. In 2017, Schiavi MC et al. studied the safety and success of rectovaginal fascia plication for symptomatic rectocele and also analyzed its influence on QoL and sexuality. The authors noticed a decrease in dyspareunia 12 months postoperatively from 21% at baseline to 3.1% with de novo dyspareunia of only 1.8% [82]. These authors concluded that the use of vaginal native tissue for posterior compartment prolapse repair is safe and highly successful for symptomatic rectocele. The complication rate is low, and simultaneously there is improvement in pelvic organ prolapse-related symptoms, QoL, and sexuality of the couple.

5. Conclusions

Human sexuality is an intricate physiologic function and characterized by multifactorial elements including physical, psychosocial, and educational. The effect of POP on sexuality varies enormously among affected women. It does not show a strict correlation with different POP anatomical stages. Sexual function parameters commonly improve after surgery regardless of the technique employed leading to better body image. However, in spite of these encouraging findings, sexual outcomes after surgical repair remain hard to predict and all of the reconstructive procedures employed in POP treatment carry certain risks. Preoperative sexual health is a crucial harbinger of postoperative sexuality. Preoperative counselling has emerged as an important part before surgery.

Sacrocolpopexy continues to be the standard treatment for POP repair, particularly in younger women, carrying the lowest rate of de novo dyspareunia, regardless of surgical approach.

In the past 3–4 decades, transvaginal repair using native tissue was widely utilized and particularly reserved for older women who were no longer sexually active. However, the vaginal approach can certainly also be offered to sexually active women especially if caution and principles of good practice are followed including the surgeon's experience, keeping resection of native vaginal tissue to a minimum, and paying special attention to patients who have failed previous POP repairs. Equally important, levator myorrhaphy should be avoided because of its recognized adverse effect on sexual function. In addition, it was demonstrated in the recent past that the sexual outcomes of transvaginal repair differ following either use of native tissue or synthetic mesh, even lightweight meshes due to lack of robust systematic or meta-analyses. Lastly, the use of synthetic material in POP repair was associated with remarkably higher and more dramatic adverse outcomes leading the FDA to stop manufacturers marketing these products for pelvic prolapse repair, restricting its use for the transabdominal approach, either by open or minimally invasive techniques. Recently, minimally invasive (laparoscopic or robot-assisted) procedures have shifted the paradigm in the surgical treatment of POP.

The main predictor of post-operative sexual health remains the well-being that the couple experienced before surgery. Therefore, preoperative sexual health evaluation must be a priority and should involve a multidisciplinary approach involving a psychologist and sex therapist whenever deemed necessary. In specific cases, individualized treatment options should be discussed and offered.

Funding: This research received no external funding.

Data Availability Statement: Not applicable (no patients involved).

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Fatton, B.; de Tayrac, R.; Letouzey, V.; Huberlant, S. Pelvic organ prolapse and sexual function. *Nat. Rev. Urol.* **2020**, *17*, 373–390. [[CrossRef](#)] [[PubMed](#)]
2. Nygaard, I.; Barber, M.D.; Burgio, K.L.; Kenton, K.; Meikle, S.; Schaffer, J.; Spino, C.; Whitehead, W.E.; Wu, J.; Brody, D.J. Pelvic Floor Disorders Network. Prevalence of symptomatic pelvic floor disorders in US women. *JAMA* **2008**, *300*, 1311–1316. [[CrossRef](#)] [[PubMed](#)]
3. Nygaard, I.; Bradley, C.; Brandt, D. Pelvic organ prolapse in older women: Prevalence and risk factors. *Obstet. Gynecol.* **2004**, *104*, 489–497. [[CrossRef](#)] [[PubMed](#)]
4. Samuelsson, E.C.; Victor, F.T.; Tibblin, G.; Svardsudd, K.F. Signs of genital prolapse in a Swedish population of women 20 to 59 years of age and possible related factors. *Am. J. Obstet. Gynecol.* **1999**, *180 Pt 1*, 299–305. [[CrossRef](#)]
5. Swift, S.E. The distribution of pelvic organ support in a population of female subjects seen for routine gynecologic health care. *Am. J. Obstet. Gynecol.* **2000**, *183*, 277–285. [[CrossRef](#)] [[PubMed](#)]
6. Novi, J.M.; Jeronis, S.; Morgan, M.A.; Arya, L.A. Sexual function in women with pelvic organ prolapse compared to women without pelvic organ prolapse. *J. Urol.* **2005**, *173*, 1669–1672. [[CrossRef](#)]
7. Barber, M.D.; Visco, A.G.; Wyman, J.F.; Fantl, J.A.; Bump, R.C. Sexual function in women with urinary incontinence and pelvic organ prolapse. *Obstet. Gynecol.* **2002**, *99*, 281–289. [[PubMed](#)]
8. Lowenstein, L.; Gamble, T.; Sanses, T.V.; van Raalte, H.; Carberry, C.; Jakus, S.; Kambiss, S.; McAchran, S.; Pham, T.; Aschkenazi, S.; et al. Sexual function is related to body image perception in women with pelvic organ prolapse. *J. Sex. Med.* **2009**, *6*, 2286–2291. [[CrossRef](#)] [[PubMed](#)]
9. Beck, R.P.; McCormick, S.; Nordstrom, L. A 25-year experience with 519 anterior colporrhaphy procedures. *Obstet. Gynecol.* **1991**, *78*, 1011–1018. [[PubMed](#)]
10. Weber, A.M.; Walters, M.D.; Schover, L.R.; Mitchinson, A. Sexual function in women with uterovaginal prolapse and urinary incontinence. *Obstet. Gynecol.* **1995**, *85*, 483–487. [[CrossRef](#)]
11. Bump, R.C.; Mattiasson, A.; Bo, K.; Brubaker, L.P.; DeLancey, J.O.; Klarskov, P.; Shull, B.L. The standardization of terminology of female pelvic organ prolapse and pelvic floor dysfunction. *Am. J. Obstet. Gynecol.* **1996**, *175*, 10–17. [[CrossRef](#)]

12. Slieker-ten Hove, M.C.; Pool-Goudzwaard, A.L.; Eijkemans, M.J.; Steegers-Theunissen, R.P.; Burger, C.W.; Vierhout, M.E. The prevalence of pelvic organ prolapse symptoms and signs and their relation with bladder and bowel disorders in a general female population. *Int. Urogynecol. J. Pelvic Floor. Dysfunct.* **2009**, *20*, 1037–1045. [[CrossRef](#)] [[PubMed](#)]
13. Handa, V.L.; Garrett, E.; Hendrix, S.; Gold, E.; Robbins, J. Progression, and remission of pelvic organ prolapse: A longitudinal study of menopausal women. *Am. J. Obstet. Gynecol.* **2004**, *190*, 27–32. [[CrossRef](#)] [[PubMed](#)]
14. Zeleke, B.M.; Bell, R.J.; Billah, B.; Davis, S.R. Symptomatic pelvic floor disorders in community-dwelling older Australian women. *Maturitas* **2016**, *85*, 34–41. [[CrossRef](#)] [[PubMed](#)]
15. Tegerstedt, G.; Maehle-Schmidt, M.; Nyrén, O.; Hammarström, M. Prevalence of symptomatic pelvic organ prolapse in a Swedish population. *Int. Urogynecol. J. Pelvic Floor. Dysfunct.* **2005**, *16*, 497–503. [[CrossRef](#)]
16. Vierhout, M.E.; Stoutjesdijk, J.; Spruijt, J. A comparison of preoperative and intraoperative evaluation of patients undergoing pelvic reconstructive surgery for pelvic organ prolapse using the Pelvic Organ Prolapse Quantification System. *Int. Urogynecol. J. Pelvic Floor. Dysfunct.* **2006**, *17*, 46–49. [[CrossRef](#)]
17. Dietz, H.P. Pelvic organ prolapse—A review. *Aust. Fam. Physician* **2015**, *44*, 446–452. [[PubMed](#)]
18. Machin, S.E.; Mukhopadhyay, S. Pelvic organ prolapse: Review of the aetiology, presentation, diagnosis and management. *Menopause Int.* **2011**, *17*, 132–136. [[CrossRef](#)] [[PubMed](#)]
19. Vergeldt, T.F.; Weemhoff, M.; IntHout, J.; Kluivers, K.B. Risk factors for pelvic organ prolapse and its recurrence: A systematic review. *Int. Urogynecol. J.* **2015**, *26*, 1559–1573. [[CrossRef](#)] [[PubMed](#)]
20. Ko, K.J.; Lee, K.S. Current surgical management of pelvic organ prolapse: Strategies for the improvement of surgical outcomes. *Investig. Clin. Urol.* **2019**, *60*, 413–424. [[CrossRef](#)]
21. Løwenstein, E.; Ottesen, B.; Gimbel, H. Incidence and lifetime risk of pelvic organ prolapse surgery in Denmark from 1977 to 2009. *Int. Urogynecol. J.* **2015**, *26*, 49–55. [[CrossRef](#)]
22. Smith, F.J.; Holman, C.D.; Moorin, R.E.; Tsokos, N. Lifetime risk of undergoing surgery for pelvic organ prolapse. *Obstet. Gynecol.* **2010**, *116*, 1096–1100. [[CrossRef](#)]
23. Wu, J.M.; Matthews, C.A.; Conover, M.M.; Pate, V.; Jonsson Funk, M. Lifetime risk of stress urinary incontinence or pelvic organ prolapse surgery. *Obstet. Gynecol.* **2014**, *123*, 1201–1206. [[CrossRef](#)] [[PubMed](#)]
24. Wang, C.N.; Chung, D.E. Etiology, diagnosis, and management of pelvic organ prolapse: Overview. In *Female Genitourinary and Pelvic Floor Reconstruction*; Martins, F.E., Holm, H.V., Sandhu, J.S., McCammon, K., Eds.; Springer: Berlin/Heidelberg, Germany, 2023; pp. 507–518.
25. Hagen, S.; Stark, D.; Glazener, C.; Dickson, S.; Barry, S.; Elders, A.; Frawley, E.; Galea, M.P.; Logan, J.; McDonald, A.; et al. Individualised pelvic floor muscle training in women with pelvic organ prolapse (POPPY): A multicentre randomised controlled trial. *Lancet* **2014**, *383*, 796–806. [[CrossRef](#)] [[PubMed](#)]
26. Li, C.; Gong, Y.; Wang, B. The efficacy of pelvic floor muscle training for pelvic organ prolapse: A systematic review and meta-analysis. *Int. Urogynecol. J.* **2016**, *27*, 981–992. [[CrossRef](#)]
27. Radnia, N.; Hajhashemi, M.; Eftekhari, T.; Deldar, M.; Mohajeri, T.; Sohbati, S.; Ghanbari, Z. Patient Satisfaction and Symptoms Improvement in Women Using a Vaginal Pessary for The Treatment of Pelvic Organ Prolapse. *J. Med. Life* **2019**, *12*, 271–275. [[CrossRef](#)] [[PubMed](#)]
28. Wu, J.M.; Vaughan, C.P.; Goode, P.S.; Redden, D.T.; Burgio, K.L.; Richter, H.E.; Markland, A.D. Prevalence and trends of symptomatic pelvic floor disorders in U.S. women. *Obstet. Gynecol.* **2014**, *123*, 141–148. [[CrossRef](#)]
29. Clark, A.L.; Gregory, T.; Smith, V.J.; Edwards, R. Epidemiologic evaluation of reoperation for surgically treated pelvic organ prolapse and urinary incontinence. *Am. J. Obstet. Gynecol.* **2003**, *189*, 1261–1267. [[CrossRef](#)]
30. Olsen, A.L.; Smith, V.J.; Bergstrom, J.O.; Colling, J.C.; Clark, A.L. Epidemiology of surgically managed pelvic organ prolapse and urinary incontinence. *Obstet. Gynecol.* **1997**, *89*, 501–506. [[CrossRef](#)]
31. Brubaker, L. Controversies and uncertainties: Abdominal versus vaginal surgery for the pelvic organ prolapse. *Am. J. Obstet. Gynecol.* **2005**, *192*, 690–693. [[CrossRef](#)]
32. Diez-Itza, I.; Aizpitarte, I.; Becerro, A. Risk factors for the recurrence of pelvic organ prolapse after vaginal surgery: A review at 5 years after surgery. *Int. Urogynecol. J. Pelvic Floor Dysfunct.* **2007**, *18*, 1317–1324. [[CrossRef](#)] [[PubMed](#)]
33. Luber, K.M.; Boero, S.; Choe, J.Y. The demographics of pelvic floor disorders: Current observations and future projections. *Am. J. Obstet. Gynecol.* **2001**, *184*, 1496–1501; discussion 1501–1503. [[CrossRef](#)]
34. Maher, C.; Feiner, B.; Baessler, K.; Schmid, C. Surgical management of pelvic organ prolapse in women. *Cochrane Database Syst. Rev.* **2013**, CD004014. [[CrossRef](#)]
35. Nygaard, I.; Brubaker, L.; Zyczynski, H.M.; Cundiff, G.; Richter, H.; Gantz, M.; Fine, P.; Menefee, S.; Ridgeway, B.; Visco, A.; et al. Long-term outcomes following abdominal sacrocolpopexy for pelvic organ prolapse. *JAMA* **2013**, *309*, 2016–2024. [[CrossRef](#)]
36. Chughtai, B.; Mao, J.; Buck, J.; Kaplan, S.; Sedrakyan, A. Use and risks of surgical mesh for pelvic organ prolapse surgery in women in New York state: Population based cohort study. *BMJ* **2015**, *350*, h2685. [[CrossRef](#)] [[PubMed](#)]

37. Mao, J.; Chughtai, B.; Ibrahim, S.; Sedrakyan, A. Food and Drug Administration Safety Communication on the Use of Transvaginal Mesh in Pelvic Organ Prolapse Repair Surgery: The Impact of Social Determinants of Health. *Female Pelvic Med. Reconstr. Surg.* **2021**, *27*, e133–e138. [CrossRef]
38. US Food and Drug Administration. FDA Takes Action to Protect Women’s Health, Orders Manufacturers of Surgical Mesh Intended for Transvaginal Repair of Pelvic Organ Prolapse to Stop Selling All Devices. FDA: Silver Spring, MD, USA, 2019. Available online: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm636114.htm> (accessed on 16 April 2019).
39. Eilber, K.S.; Alperin, M.; Khan, A.; Wu, N.; Pashos, C.L.; Clemens, J.Q.; Anger, J.T. Outcomes of vaginal prolapse surgery among female Medicare beneficiaries: The role of apical support. *Obstet. Gynecol.* **2013**, *122*, 981–987. [CrossRef]
40. Meriwether, K.V.; Antosh, D.D.; Olivera, C.K.; Kim-Fine, S.; Balk, E.M.; Murphy, M.; Grimes, C.L.; Sleemi, A.; Singh, R.; Dieter, A.A.; et al. Uterine preservation vs hysterectomy in pelvic organ prolapse surgery: A systematic review with meta-analysis and clinical practice guidelines. *Am. J. Obstet. Gynecol.* **2018**, *219*, 129–146.e2. [CrossRef]
41. Fattouh, B.; de Tayrac, R.; Costa, P. Stress urinary incontinence and LUTS in women—effects on sexual function. *Nat. Rev. Urol.* **2014**, *11*, 565–578. [CrossRef]
42. Omotosho, T.B.; Rogers, R.G. Shortcomings/strengths of specific sexual function questionnaires currently used in urogynecology: A literature review. *Int. Urogynecol. J. Pelvic Floor. Dysfunct.* **2009**, *20* (Suppl. S1), S51–S56. [CrossRef]
43. Kamińska, A.; Futyma, K.; Romanek-Piva, K.; Streit-Ciećkiewicz, D.; Rechberger, T. Sexual function specific questionnaires as a useful tool in management of urogynecological patients—Review. *Eur. J. Obstet. Gynecol. Reprod. Biol.* **2019**, *234*, 126–130. [CrossRef]
44. Rogers, R.G.; Pauls, R.N.; Thakar, R.; Morin, M.; Kuhn, A.; Petri, E.; Fattouh, B.; Whitmore, K.; Kinsberg, S.; Lee, J. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for the assessment of sexual health of women with pelvic floor dysfunction. *Neurourol. Urodyn.* **2018**, *37*, 1220–1240. [CrossRef]
45. Ahtari, C.; Dwyer, P.L. Sexual function and pelvic floor disorders. *Best. Pract. Res. Clin. Obstet. Gynaecol.* **2005**, *19*, 993–1008. [CrossRef]
46. Haylen, B.T.; de Ridder, D.; Freeman, R.M.; Swift, S.E.; Berghmans, B.; Lee, J.; Monga, A.; Petri, E.; Rizk, D.E.; Sand, P.K.; et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *Neurourol. Urodyn.* **2010**, *29*, 4–20. [CrossRef]
47. Handa, V.L.; Cundiff, G.; Chang, H.H.; Helzlsouer, K.J. Female sexual function and pelvic floor disorders. *Obstet. Gynecol.* **2008**, *111*, 1045–1052. [CrossRef]
48. Jha, S.; Gray, T. A systematic review and meta-analysis of the impact of native tissue repair for pelvic organ prolapse on sexual function. *Int. Urogynecol. J.* **2015**, *26*, 321–327. [CrossRef]
49. Dheresa, M.; Worku, A.; Oljira, L.; Mengistie, B.; Assefa, N.; Berhane, Y. Pelvic floor disorders associated with higher-level sexual dysfunction in the Kersa district, Ethiopia. *Turk. J. Obstet. Gynecol.* **2018**, *15*, 210–216. [CrossRef]
50. Yaakobi, T.; Handelzalts, J.E.; Peled, Y.; Levy, S.; Wiznitzer, A.; Krissi, H. Direct and indirect effects of personality traits on psychological distress in women with pelvic floor disorders. *Female Pelvic Med. Reconstr. Surg.* **2017**, *23*, 412–416. [CrossRef]
51. Lowenstein, L.; Pierce, K.; Pauls, R. Urogynecology and sexual function research. How are we doing? *J. Sex. Med.* **2009**, *6*, 199–204. [CrossRef] [PubMed]
52. Barber, M.D.; Brubaker, L.; Nygaard, I.; Wheeler, T.L., 2nd; Schaffer, J.; Chen, Z.; Spino, C.; Pelvic Floor Disorders Network. Defining success after surgery for pelvic organ prolapse. *Obstet. Gynecol.* **2009**, *114*, 600–609. [CrossRef] [PubMed]
53. Altman, D.; Väyrynen, T.; Engh, M.E.; Axelsen, S.; Falconer, C.; Nordic Transvaginal Mesh Group. Anterior colporrhaphy versus transvaginal mesh for pelvic-organ prolapse. *N. Engl. J. Med.* **2011**, *364*, 1826–1836. [CrossRef]
54. Thompson, J.C.; Rogers, R.G. Surgical Management for Pelvic Organ Prolapse and Its Impact on Sexual Function. *Sex. Med. Rev.* **2016**, *4*, 213–220. [CrossRef] [PubMed]
55. Vandendriessche, D.; Sussfeld, J.; Giraudet, G.; Lucot, J.P.; Behal, H.; Cosson, M. Complications and reoperations after laparoscopic sacrocolpopexy with a mean follow-up of 4 years. *Int. Urogynecol. J.* **2017**, *28*, 231–239. [CrossRef]
56. Deval, B.; Rafii, A.; Azria, E.; Daraï, E.; Levardon, M. Vaginal mesh erosion 7 years after a sacral colpopexy. *Acta Obstet. Gynecol. Scand.* **2003**, *82*, 674–675. [CrossRef] [PubMed]
57. Kemp, M.M.; Slim, K.; Rabischong, B.; Bourdel, N.; Canis, M.; Botchorishvili, R. Transrectal Mesh Erosion Requiring Bowel Resection. *J. Minim. Invasive Gynecol.* **2017**, *24*, 717–721. [CrossRef]
58. Balzarro, M.; Rubilotta, E.; Sarti, A.; Curti, P.; Artibani, W. A unique case of late complication of rectum mesh erosion after laparoscopic sacrocolpopexy. *Urol. Int.* **2014**, *92*, 363–365. [CrossRef] [PubMed]
59. Sarlos, D.; Kots, L.; Ryu, G.; Schaer, G. Long-term follow-up of laparoscopic sacrocolpopexy. *Int. Urogynecol. J.* **2014**, *25*, 1207–1212. [CrossRef]
60. Tyagi, V.; Perera, M.; Guerrero, K.; Hagen, S.; Pringle, S. Prospective observational study of the impact of vaginal surgery (pelvic organ prolapse with or without urinary incontinence) on female sexual function. *Int. Urogynecol. J.* **2018**, *29*, 837–845. [CrossRef]

61. Handa, V.L.; Zyczynski, H.M.; Brubaker, L.; Nygaard, I.; Janz, N.K.; Richter, H.E.; Wren, P.A.; Brown, M.B.; Weber, A.M.; Pelvic Floor Disorders Network. Sexual function before and after sacrocolpopexy for pelvic organ prolapse. *Am. J. Obstet. Gynecol.* **2007**, *197*, e1–e6. [[CrossRef](#)]
62. Marschke, J.; Hengst, L.; Schwertner-Tiepelmann, N.; Beilecke, K.; Tunn, R. Transvaginal single-incision mesh reconstruction for recurrent or advanced anterior vaginal wall prolapse. *Arch. Gynecol. Obstet.* **2015**, *291*, 1081–1087. [[CrossRef](#)] [[PubMed](#)]
63. Andersen, L.L.; Zobbe, V.; Ottesen, B.; Gluud, C.; Tabor, A.; Gimbel, H.; Danish Hysterectomy Trial Group. Five-year follow up of a randomised controlled trial comparing subtotal with total abdominal hysterectomy. *BJOG* **2015**, *122*, 851–857. [[CrossRef](#)] [[PubMed](#)]
64. Thakar, R.; Sultan, A.H. Hysterectomy and pelvic organ dysfunction. *Best. Pract. Res. Clin. Obstet. Gynaecol.* **2005**, *19*, 403–418. [[CrossRef](#)] [[PubMed](#)]
65. Flory, N.; Bissonnette, F.; Amsel, R.T.; Binik, Y.M. The psychosocial outcomes of total and subtotal hysterectomy: A randomized controlled trial. *J. Sex. Med.* **2006**, *3*, 483–491. [[CrossRef](#)]
66. Detollenaere, R.J.; den Boon, J.; Stekelenburg, J.; Int'Hout, J.; Vierhout, M.E.; Kluivers, K.B.; van Eijndhoven, H.W.F. Sacrospinous hysteropexy versus vaginal hysterectomy with suspension of the uterosacral ligaments in women with uterine prolapse stage 2 or higher: Multicentre randomised non-inferiority trial. *BMJ* **2015**, *351*, h3717. [[CrossRef](#)] [[PubMed](#)]
67. Zobbe, V.; Gimbel, H.; Andersen, B.M.; Filtenborg, T.; Jakobsen, K.; Sørensen, H.C.; Toftager-Larsen, K.; Sidenius, K.; Møller, N.; Madsen, E.M.; et al. Sexuality after total vs. subtotal hysterectomy. *Acta Obstet. Gynecol. Scand.* **2004**, *83*, 191–196. [[CrossRef](#)]
68. Costantini, E.; Porena, M.; Lazzeri, M.; Mearini, L.; Bini, V.; Zucchi, A. Changes in female sexual function after pelvic organ prolapse repair: Role of hysterectomy. *Int. Urogynecol. J.* **2013**, *24*, 1481–1487. [[CrossRef](#)] [[PubMed](#)]
69. Ridgeway, B.M. Does prolapse equal hysterectomy? The role of uterine conservation in women with uterovaginal prolapse. *Am. J. Obstet. Gynecol.* **2015**, *213*, 802–809. [[CrossRef](#)] [[PubMed](#)]
70. McPherson, K.; Herbert, A.; Judge, A.; Clarke, A.; Bridgman, S.; Maresh, M.; Overton, C. Psychosexual health 5 years after hysterectomy: Population-based comparison with endometrial ablation for dysfunctional uterine bleeding. *Health Expect.* **2005**, *8*, 234–243. [[CrossRef](#)] [[PubMed](#)]
71. Given, F.T., Jr.; Muhlenhoff, I.K.; Browning, G.M. Vaginal length and sexual function after colpopexy for complete uterovaginal eversion. *Am. J. Obstet. Gynecol.* **1993**, *169 Pt 1*, 284–287; discussion 287–288. [[CrossRef](#)] [[PubMed](#)]
72. Tunuguntla, H.S.; Gousse, A.E. Female sexual dysfunction following vaginal surgery: A review. *J. Urol.* **2006**, *175*, 439–446. [[CrossRef](#)]
73. Dua, A.; Jha, S.; Farkas, A.; Radley, S. The effect of prolapse repair on sexual function in women. *J. Sex. Med.* **2012**, *9*, 1459–1465. [[CrossRef](#)] [[PubMed](#)]
74. Lukacz, E.S.; Warren, L.K.; Richter, H.E.; Brubaker, L.; Barber, M.D.; Norton, P.; Weidner, A.C.; Nguyen, J.N.; Gantz, M.G. Quality of Life and Sexual Function 2 Years After Vaginal Surgery for Prolapse. *Obstet. Gynecol.* **2016**, *127*, 1071–1079. [[CrossRef](#)] [[PubMed](#)]
75. Shatkin-Margolis, A.; Pauls, R.N. Sexual function after prolapse repair. *Curr. Opin. Obstet. Gynecol.* **2017**, *29*, 343–348. [[CrossRef](#)] [[PubMed](#)]
76. Kahn, M.A.; Stanton, S.L. Posterior colporrhaphy: Its effects on bowel and sexual function. *Br. J. Obstet. Gynaecol.* **1997**, *104*, 82–86. [[CrossRef](#)]
77. Weber, A.M.; Walters, M.D.; Piedmonte, M.R. Sexual function and vaginal anatomy in women before and after surgery for pelvic organ prolapse and urinary incontinence. *Am. J. Obstet. Gynecol.* **2000**, *182*, 1610–1615. [[CrossRef](#)]
78. Ulrich, D.; Dwyer, P.; Rosamilia, A.; Lim, Y.; Lee, J. The effect of vaginal pelvic organ prolapse surgery on sexual function. *Neurourol. Urodyn.* **2015**, *34*, 316–321. [[CrossRef](#)] [[PubMed](#)]
79. Kenton, K.; Shott, S.; Brubaker, L. Outcome after rectovaginal fascia reattachment for rectocele repair. *Am. J. Obstet. Gynecol.* **1999**, *181*, 1360–1363; discussion 1363–1364. [[CrossRef](#)] [[PubMed](#)]
80. Porter, W.E.; Steele, A.; Walsh, P.; Kohli, N.; Karram, M.M. The anatomic and functional outcomes of defect-specific rectocele repairs. *Am. J. Obstet. Gynecol.* **1999**, *181*, 1353–1358; discussion 1358–1359. [[CrossRef](#)] [[PubMed](#)]
81. Sardeli, C.; Axelsen, S.M.; Kjaer, D.; Bek, K.M. Outcome of site-specific fascia repair for rectocele. *Acta Obstet. Gynecol. Scand.* **2007**, *86*, 973–977. [[CrossRef](#)] [[PubMed](#)]
82. Schiavi, M.C.; D’Oria, O.; Faiano, P.; Prata, G.; Di Pinto, A.; Sciuga, V.; Colagiovanni, V.; Giannini, A.; Zullo, M.A.; Monti, M.; et al. Vaginal Native Tissue Repair for Posterior Compartment Prolapse: Long-Term Analysis of Sexual Function and Quality of Life in 151 Patients. *Female Pelvic Med. Reconstr. Surg.* **2018**, *24*, 419–423. [[CrossRef](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.