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REVIEW

A review of the effect of faecal incontinence and constipation on sexual function

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Abstract

Aim Faecal incontinence and constipation are common conditions which may adversely affect quality of life. They may have an adverse effect on sexual function.

Method This review of the published literature aimed to assess the published evidence.

Results Only seven published studies have reported the effect of these conditions on sexual function. Four reported on those with faecal incontinence. Two reported on those with faecal incontinence and constipation and one reported solely on constipation. All were questionnaire-based studies or retrospective reviews of institutional databases. A heterogenous mix of different measures of sexual function were applied. Conflicting findings were reported. Some studies suggested that those with faecal incontinence and constipation may have adverse sexual experiences. Others suggest that these pelvic floor disorders have no significant effect.

Conclusion Further work is needed to investigate this. Large questionnaire studies with normal subject controls and adjustment for confounding factors are likely to be needed.

Keywords Sexual function · Faecal incontinence · Constipation · Sexual dysfunction

Introduction

Faecal incontinence and constipation are common problems. Faecal incontinence is believed to affect up to 20% of the population [1] and constipation may affect up to 35% [2]. A significant adverse effect on general quality of life can be seen with these conditions. This effect has been reported widely. However, there are multiple components to quality of life measures. Sexual function is one important component. Little has been published on the effect of FI and constipation on this specific outcome.

Sexual dysfunction is a common problem. It may affect up to 40% of women of reproductive age [3], making it one of the most common psychological disorders in the population. It can have a significant impact on the patient's well being. The frequency of sexual activity and its enjoyment may be affected. This dysfunction can also manifest itself in other ways. These include adverse effects on the patient's relationships with others [4] and on their own confidence and self perception.

The aim of this review is to determine how sexual function is affected in those of the female gender with faecal and flatus incontinence and constipation.

Method

A review of the published literature was performed. A systematic search of the Pubmed electronic database was performed. The search terms of "faecal incontinence", "constipation", "sexual function", "sexual dysfunction" and "sex" were applied. Retrieved sources were reviewed, screened and assessed for eligibility in line with PRISMA guidelines. References in selected papers were interrogated. Review articles, letters and papers not in English language were excluded. Titles, abstracts and then manuscripts were reviewed to determine suitability for inclusion.

What does this paper add to the literature:
This is the first published review of the effect of faecal and flatus incontinence and constipation on sexual function. This highlights a significant problem which is often overlooked.

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Results

Faecal incontinence

In 2012, Imhoff and colleagues [5] were the first to describe the impact of faecal incontinence on sexual function in community dwelling women. Previous studies had commented on this relationship in those who had undergone various treatments for FI, such as sacral nerve stimulation. Imhoff described the results of a questionnaire study which involved 2269 women. They were questioned as part of large cohort study into the risk factors for global pelvic floor dysfunction. Faecal incontinence symptoms were assessed with the Faecal Incontinence Severity Index (FISI) [6]. Sexual function and activity was assessed with the Female Sexual Function Index (FSFI) [7].

Of the total 2269 patients questioned, 995 (44%) reported isolated flatus incontinence (FL), 545 (24%) reported faecal incontinence (FI) and 729 (32%) reported neither FL nor FI. Overall, 63% of women reported some sexual activity over the preceding 3 months. Participation did not differ significantly between those with FL (66%), FI (61%) or with neither symptom (62%).

However, the frequency of participation in sexual activity, sexual desire and sexual satisfaction did differ. Those with FI fared significantly worse in these aspects when compared to the other two groups. In addition to this, those with FI were more likely to report specific sexual problems such as difficulties with arousal, lubrication, orgasm and pain during intercourse. Multivariate analysis showed that women with FI had 41% greater odds of reporting low sexual desire, 56% greater odds of reporting low sexual satisfaction and 65% greater odds of reporting limitation of sexual activity because of physical health in comparison to those with simply FL or neither FI nor FL.

The severity of FI appeared to have an effect. Those with weekly FI were more likely to report lower sexual satisfaction ($p < 0.001$) and greater limitation of sexual activity due to physical health ($p < 0.001$), when compared to those with monthly or less than monthly FI. This was reflected in the multivariate analysis. Weekly FI carried a more than twofold increased odds of reporting that their physical health limited sexual activity and a more than 80% increased odds of reporting low sexual satisfaction.

The authors concluded that FI did not limit participation into sexual activity, but had a significant impact on sexual quality of life. This was reflected in both sexual satisfaction and specific sexual problems.

Fashokun and colleagues [8] examined the sexual activity and function in women with and without pelvic floor disorders. They reported on 505 women; 308 had a pelvic floor disorder (PFD) and 197 had none. The pelvic floor disorders were urinary incontinence, faecal incontinence and pelvic organ prolapse. The FSFI [7] was used to assess sexual function. 162 (53%) had FI. Seventy-five percent of women without a PFD reported sexual activity in the last 6 months, versus 61.6% of those with a PFD. This difference was not found to be significant ($p = 0.09$). Interestingly, only six women with PFD reported this as a reason for the lack of sexual activity. The main reason for sexual inactivity was lack of a partner. Total FSFI scores did not differ significantly between those with a PFD (23.2 ± 8.5) and those without a PFD (24.4 ± 9.2) ($p = 0.23$). The FSFI arousal, lubrication, orgasm, satisfaction and pain domains did not differ between the two groups. The specific effect on FI was only assessed during multivariate analysis. This showed that FI had no significant impact on sexual activity. The authors concluded that rates of sexual activity and function are not different between women with or without a PFD. It was not clear if the severity of FI had any effect on sexual activity or function.

In 2013, Cichowski and colleagues [9] reported their institution's experience of women presenting with pelvic floor disorders over a 5-year period. They focussed on those with and without FI, and compared the Pelvic Organ Prolapse Incontinence Sexual Questionnaire-12 (PISQ-12) scores between the two groups. They reported that 588 had FI and 527 did not. They defined FI as the involuntary loss of solid or liquid stool, and/or the use of pads or lifestyle changes due to stool loss. Firstly, they compared those women who had FI with those who did not have FI. Some of these women were not sexually active. The authors' second analysis was between those who were sexually active who had FI with those who were sexually active and did not have FI.

In the first analysis, age and BMI were negatively associated with sexual activity. The presence of a partner and alcohol use were positively associated with sexual activity. No other factor achieved significance. Multivariate analysis showed that FI was not associated with sexual activity status. When those women who were all sexually active were analysed, the effect of FI became more apparent. FI was strongly associated with a lower PISQ-12 score ($p < 0.001$). FI was associated with a greater score decrease for the PISQ-12 than for the Incontinence Severity Index. This implied that FI was associated with a greater impact on sexual function than urinary incontinence. Analysis of the PISQ-12 sub-scores showed that women with or without FI had similar frequencies of sexual desire, orgasm and satisfaction with sexual activities. However, women with FI were more likely to report pain, urinary incontinence with sexual activity, negative emotional reactions with sexual activity and partner problems (such as difficulty with erections and premature ejaculation). Increasing Wexner FI score [10] (worsening FI) was compared with the decreasing PISQ-12 score (worsening sexual function) using Pearson's coefficient. The interaction was -0.26 ($p = 0.0003$). This meant that worse FI, as measured by the Wexner FI score, was associated with worse sexual

function as measured by PISQ-12. The authors concluded that women with FI were as likely to engage in sexual activity as women without FI. However, sexually active women with FI had poorer sexual function compared to those without FI.

A smaller study by Pauls and colleagues in 2015 [11] compared sexual function in those with or without FI. This was a secondary analysis as part of a larger study which aimed to validate the Pelvic Organ Prolapse/ Incontinence Sexual Function Questionnaire-IUGA Revised (PISQ-IR). Eight hundred seventy-two women were enrolled, 90 had FI. The authors found that women with FI have similar rates of sexual activity but poorer sexual function, when compared to those without FI.

Constipation

Little has been published on sexual function in those with constipation. A retrospective series by Pellino and colleagues [4] reported on sexual dysfunction in women who had presented to their unit with faecal incontinence and defecatory dysfunction (DD). The PISQ-12 score was used to determine sexual function at presentation. Of a total of 313 women, 192 had FI and 121 had DD. Two hundred and twelve had a PISQ-12 score below 38, this indicated the presence of sexual dysfunction. One hundred patients had a score of under 30, which indicated the presence of major sexual dysfunction. No statistically significant difference was seen in this score between those with FI or DD ($p = 0.9$ and 0.1 for moderate and major sexual dysfunction). The mean overall PISQ-12 score was 33.2 ± 7.2. This was 5 points lower than the mean scores of the general population, as reported in the score's validating literature. Multivariate regression analysis was used to determine major factors which may predict sexual dysfunction. Previous anorectal surgery was the strongest predictor (OR 15.4, $p = 0.016$). Partner ejaculatory problems (OR 2.5), reduced sexual arousal (OR 2.1) and impaired orgasm perception (OR 2.1) were also found to be significant predictors of sexual dysfunction.

A total of 308 women had PFD and 197 had no PFD. Sexual activity was reported in 75% of those without PFD versus 61.6% of those with PFD, this difference was non-significant ($p = 0.09$). The most common reason for lack of this activity was the absence of a partner. Only six of those with a PFD reported bladder, bowel or vaginal problems as a reason for sexual inactivity.

A smaller study by Bortolami and colleagues [12] questioned 85 consecutive women who were undergoing pelvic floor physiotherapy for a variety of different pelvic floor disorders. Sexual function was assessed using the FSFI. The authors found a significant correlation between the younger age group (fertile age) and high pelvic floor tone and poorer sexual function.

Li-Yun-Fong [13] reported on a retrospective study of 755 women who had been referred to the authors' urogynaecology clinic. All had pelvic floor disorders (PFD). Of these, 41% had FI, 70% had obstructed defecation, 72% had pelvic organ prolapse, 78% had an overactive bladder and 66% had stress urinary incontinence. The Short Personal Experiences Questionnaire (SPEQ) was used to assess sexual function. The Pelvic Floor Distress Inventory (PFDI) and the Pelvic Floor Impact Questionnaire (PFIQ-7) were used to assess severity of the PFD.

Seventy-four percent ($n = 547$) of patients had a sexual partner, and most ($n = 423$) had sexual intercourse with some frequency. Sexual enjoyment was compared to severity of PFD. Overall, 292 (46%) enjoyed sex, whilst 339 (54%) did not. Those who enjoyed sex had lower PFDI and PFIQ-7 scores compared to those who did not. When specific PFD were analysed, pelvic organ prolapse, obstructed defecation and faecal incontinence were significantly associated with a lack of enjoyment of sex ($p < 0.01$, $p = 0.43$ and $p = 0.034$ respectively).

Overall sexual function was also assessed. Higher PFD specific severity scores using the PFDI and PFIQ-7 were significantly associated with lower arousal ($p < 0.001$), lower orgasm ($p < 0.01$) and sexual enjoyment ($p < 0.01$). However, sexual desire was not affected.

However, when these results were adjusted for known determinants of sexual function (age, dyspareunia, vaginal atrophy and partner issues), these seemingly strong associations became non-significant. The authors concluded that women with pelvic floor disorders seem to have a large burden of sexual dysfunction, however this appears to be mediated by other factors.

Discussion

There is a widely held perception that PFDs have a significant impact on sexual function. However, how this is affected is unclear. All the studies described above are either questionnaire-based studies or retrospective reviews of institutions' databases. As such, all have inherent limitations. The overall quality of scientific evidence is low, and is of grade four according to the Oxford centre for evidence based medicine (www.cebm.net). However, unless a questionnaire study is employed, it is difficult to see how else the impact of FI or constipation on sexual function could be assessed accurately. Some have attempted to provide controls against the patient group in question. This is important, and adds significance to any observed changes in those with FI or constipation. This is best shown by the work of Imhoff and colleagues [5], who questioned those with and without pelvic floor disorders. A large prospective questionnaire study with a control group of normal subjects would be the best way of investigating this

further. Another potential difficulty is in the variation reported incidence of FI, Imhoff reported this to be 24% in their group, whereas Pauls suggested this was 10%. It is important that an empathic and sensitive approach is used when assessing sexual function in those with FI and constipation. It is unlikely that patients will be forthcoming with such details on initial assessment.

Imhoff [5], Cichowski [9] and Pauls [11] suggested that those with FI may engage in sexual activity at a frequency equal to those unaffected by FI. However, they are more likely to experience negative sexual experiences, such as poor arousal and dyspareunia. In contrast, Fashokun [8] found no difference in any aspect of sexual activity between those affected and unaffected by FI, when compared to a control group. This difference of findings is interesting. There are multiple tools available to assess sexual function. This may explain the conflicting findings.

Only Pellino [4] and colleagues attempted to look specifically at the effects of constipation on sexual activity. They reported a retrospective review. Constipation was described as a single group (defection disorder or DD). Those with a predominance of obstructed defection or slow colonic transit were not specifically identified. The authors attempted to differentiate the effect on sexual function between the two conditions (FI and DD). They found no significant difference in any domain of the PISQ-12 (pelvic organ/ prolapse incontinence sexual questionnaire-12) between those with FI and those with defecatory disorders. The different types of constipation, such as slow transit, obstructed defecation or idiopathic may each have a different effect on sexual function. Sexual function in those with constipation may be a complicated issue. There is a higher incidence of traumatic incidents, such as sexual abuse, in those with long standing constipation when compared to a healthy population [14, 15]. This history will have a significant impact on the patient's sexual function. It is recognised that women who have been abused will have a higher incidence of sexual dysfunction, when compared to those without a history of abuse [16]. Further work is needed to look into how sexual function is affected in those with constipation, with attention given to confounding issues such as previous abuse and psychological illness.

Treatment of pelvic cancers may lead to a disturbance of bowel function. This may be secondary to the tumour itself, direct disruption of the pelvic anatomy during surgery or as a side effect of external beam radiotherapy. Low anterior resection syndrome (LARS) has gained increased interest recently [17]. LARS describes the symptoms seen in those who have undergone an anterior resection. These may range from faecal incontinence to evacuatory difficulties. LARS has a significant negative impact on general quality of life [18], of which sexual function is a component. However, its specific effect on sexual function has not been reported.

The various treatments for FI and constipation may have an impact on sexual function. In 2009 Riss and colleagues [19] compared sexual function in those who had undergone an overlapping sphincter repair or FI compared to a healthy control group. They reported significantly lower scores of the Female Sexual Function Index (poorer function in the sphincter repair group compared to the healthy control group). This was despite significant improvements in the Wexner FI score. Jadav and colleagues [20] reported the effect on global pelvic floor function in 43 women who had undergone sacral nerve stimulation (SNS) for FI. They reported significant improvements in bowel- and vagina-related sexual health and 53% reported a subjective overall improvement in sexual function. In 2011, Wong [21] reported the effect of laparoscopic ventral mesh rectopexy (LVMR) for complex rectoceles on sexual function in 41 consecutive patients. The authors reported significant improvements in vaginal comfort and in general sexual function. In contrast, less encouraging results were reported by a group from the Netherlands [22]. They questioned 213 women who had undergone a LVMR for rectal prolapse, enterocele and rectocele. There were 139 responders. The number of sexually active patients dropped from 71 to 54% after surgery. Forty-three percent stated that LVMR had no effect on their sexual function and only 16% felt that LVMR had a positive influence on this.

Li-Yun Fung's [13] work was of interest. They found that when known determinates of poor sexual function were included in their analysis (such as ageing, dyspareunia and partner issues), the severity of general pelvic floor disease did not significantly affect sexual function. Unfortunately, they did not have a control group. Their conclusions are supported by the more simplified analysis of Fashokun, who reported that the presence of a pelvic floor disorder had no effect on sexual function.

Conclusion

It is unclear how faecal incontinence and constipation affect sexual function. There are contradictory reports in the published literature. Studies with larger control groups, disease-specific analysis and adjustment for confounding factors are needed to investigate this further.

References

1. Nelson R, Norton N, Cautley E, Furner S (1995) Community-based prevalence of anal incontinence. JAMA 274(7):559–561
2. Stewart WF, Liberman JN, Sandler RS, Woods MS, Stemhagen A, Chee E, Lipton RB, Farup CE (1999) Epidemiology of constipation

(EPOC) study in the United States: relation of clinical subtypes to sociodemographic features. Am J Gastroenterol 94(12):3530–3540
3. McCool-Myers M, Theurich M, Zuelke A, Knuettel H, Apfelbacher C (2018) Predictors of female sexual dysfunction: a systematic review and qualitative analysis through gender inequality paradigms. BMC Womens Health 18(1):108
4. Pellino G, Ramage L, Simillis C, Warren O, Kontovounisios C, Tan E, Tekkis P (2017) Evaluation of sexual dysfunction in female patients presenting with faecal incontinence or defecation disorder. Int J Color Dis 32(5):667–674
5. Imhoff LR, Brown JS, Creasman JM, Subak LL, Van den Eeden SK, Thom DH et al (2012) Fecal incontinence decreases sexual quality of life, but does not prevent sexual activity in women. Dis Colon Rectum 55(10):1059–1065
6. Rockwood TH, Church JM, Fleshman JW, Kane RL, Mavrantonis C, Thorson AG, Wexner SD, Bliss D, Lowry AC (1999) Patient and surgeon ranking of the severity of symptoms associated with fecal incontinence: the fecal incontinence severity index. Dis Colon Rectum 42(12):1525–1532
7. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R et al (2000) The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther 26(2):191–208
8. Fashokun TB, Harvie HS, Schimpf MO, Olivera CK, Epstein LB, Jean-Michel M et al (2013) Sexual activity and function in women with and without pelvic floor disorders. Int Urogynecol J 24(1):91–97
9. Cichowski SB, Komesu YM, Dunivan GC, Rogers RG (2013) The association between fecal incontinence and sexual activity and function in women attending a tertiary referral center. Int Urogynecol J 24(9):1489–1494
10. Jorge JM, Wexner SD (1993) Etiology and management of fecal incontinence. Dis Colon Rectum 36(1):77–97
11. Pauls RN, Rogers RG, Parekh M, Pitkin J, Kammerer-Doak D, Sand P (2015) Sexual function in women with anal incontinence using a new instrument: the PISQ-IR. Int Urogynecol J 26(5):657–663
12. Bortolami A, Vanti C, Banchelli F, Guccione AA, Pillastrini P (2015) Relationship between female pelvic floor dysfunction and sexual dysfunction: an observational study. J Sex Med 12(5):1233–1241
13. Li-Yun-Fong RJ, Larouche M, Hyakutake M, Koenig N, Lovatt C, Geoffrion R, Brotto LA, Lee T, Cundiff GW (2017) Is pelvic floor dysfunction an independent threat to sexual function? A cross-sectional study in women with pelvic floor dysfunction. J Sex Med 14(2):226–237
14. Philips EM, Peeters B, Teeuw AH, Leenders AG, Boluyt N, Brilleslijper-Kater SN et al (2015) Stressful life events in children with functional defecation disorders. J Pediatr Gastroenterol Nutr 61(4):384–392
15. Devanarayana NM, Rajindrajith S, Pathmeswaran A, Abegunasekara C, Gunawardena NK, Benninga MA (2015) Epidemiology of irritable bowel syndrome in children and adolescents in Asia. J Pediatr Gastroenterol Nutr 60(6):792–798
16. Pulverman CS, Kilimnik CD, Meston CM (2018) The impact of childhood sexual abuse on women's sexual health: a comprehensive review. Sex Med Rev 6(2):188–200
17. Emmertsen KJ, Laurberg S (2012) Low anterior resection syndrome score: development and validation of a symptom-based scoring system for bowel dysfunction after low anterior resection for rectal cancer. Ann Surg 255(5):922–928
18. Juul T, Ahlberg M, Biondo S, Espin E, Jimenez LM, Matzel KE, Palmer GJ, Sauermann A, Trenti L, Zhang W, Laurberg S, Christensen P (2014) Low anterior resection syndrome and quality of life: an international multicenter study. Dis Colon Rectum 57(5):585–591
19. Riss S, Stift A, Teleky B, Rieder E, Mittlbock M, Maier A et al (2009) Long-term anorectal and sexual function after overlapping anterior anal sphincter repair: a case-match study. Dis Colon Rectum 52(6):1095–1100
20. Jadav AM, Wadhawan H, Jones GL, Wheldon LW, Radley SC, Brown SR (2013) Does sacral nerve stimulation improve global pelvic function in women? Color Dis 15(7):848–857
21. Wong MT, Abet E, Rigaud J, Frampas E, Lehur PA, Meurette G (2011) Minimally invasive ventral mesh rectopexy for complex rectocoele: impact on anorectal and sexual function. Color Dis 13(10):e320–e326
22. Formijne Jonkers HA, Poierrie N, Draaisma WA, Broeders IA, Consten EC (2013) Impact of rectopexy on sexual function: a cohort analysis. Int J Color Dis 28(11):1579–1582