Review paper

Sexual functions in individuals with inflammatory bowel diseases

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Gastroenterology Rev 2023; 18 (1): 56–60
DOI: https://doi.org/10.5114/pg.2023.126042

Key words: inflammatory bowel disease, sexuality, sexual dysfunction.

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Abstract

Problems with intimacy and sexuality are one of the major concerns of patients with inflammatory bowel diseases (IBD). Many symptoms, complications, and consequences of these disorders are likely to impact on body image, intimacy, and sexual function. Moreover, mood disorders, in particular depression, which is a major risk factor for sexual dysfunctions, are reported to be common in chronic illnesses such as IBD. However, despite this obvious relevance, sexual problems are rarely addressed in the clinical management of patients with IBD. The aim of this review was to discuss sexual problem in people with IBD.

Introduction

Chronic illnesses such as inflammatory bowel diseases (IBD) negatively affect quality of life (QoL) [1]. Ulcerative colitis (UC) and Crohn's disease (CD), 2 major types of IBD, typically affect adolescents or young adults and are characterized by a chronically remitting course [2].

Because sexuality is a major determinant of QoL, especially in young patients, problems relating to sexual functions and intimacy are among the prominent concerns of individuals with inflammatory bowel diseases (IBD) [3, 4].

According to data, the rate of sexual disfunctions in patients with IBD is 45% to 60% in women and 15% to 25% in men, which is higher than in the general population (i.e. 30% and 5% in women and men, respectively) [5, 6].

Research shows that patients with CD or UC are at increased risk of developing anxiety and/or depression, as well as other psychological conditions [7, 8]. Moreover, the severity of psychological symptoms is exacerbated with disease flare, and both are associated with poorer QoL [9, 10].

Additionally, published data indicate that IBD patients experience concerns relating to body image, reduced libido, sexual difficulties, and problems with interpersonal and/or family relationships [11–13]. A European-wide survey has demonstrated that 40% of IBD patients reported that their disease prevented them from pursuing an intimate relationship [14].

According to available data, female patients, compared with males, have decreased libido, and their sexual satisfaction declined after IBD diagnosis [15]. Both men and women with IBD show significantly lower scores in sexual function questionnaires as compared to controls. Independent predictors of sexual dysfunction in IBD patients were corticosteroids used by women, the use of biological agents, depression, and diabetes in men. Patients reported frequent problems with their body image, often influenced by surgical scars, and thinness [16].

Knowles *et al.* aimed to characterise the relationships between illness perceptions, body image and self-consciousness, sexual life, anxiety and depression, and marital and family functioning in patients with IBD. The authors found an adverse impact of patient IBD-related illness perceptions on anxiety and depression as well as psychological comorbidity in relation to sexual health, relationship difficulties, and family function. Sexual satisfaction correlated negatively with depression, anxiety, sexual problems, and illness perceptions.

Moreover, sexual disorders, body image, and self-consciousness during intimacy had strong correlation with illness perception, anxiety, and depression [17].

An American team evaluated patient-reported interest in sexual activity and satisfaction with sex life in a large cohort of IBD patients. The authors reported that older age, disease activity, depression, anxiety, and pain were associated with lower interest and satisfaction, which led to lowered IBD-specific QoL. Moreover, it was found that people with IBD had similar levels of sexual interest but decreased sexual satisfaction compared to the general population [18].

In a study by Timmer *et al.* involving a large IBD female cohort (336 patients, 219 with CD), it was found that 63% of the participants perceived reduction in sexual activity and 17% of them were not sexually active at the time. Depression was found to be the strongest determinant of sexual problems [19]. Other research by this team, this time on a male cohort (280 males, 170 with CD), provided evidence for the adverse impact of IBD on sexual health. The authors found that sexual activity was low: 19% were not sexually active, 12% had no interest in sex, 10% had not enjoyed their sexual experience, 9% of the 65 sexually active reported erectile problems. Alike the previously mentioned study, depression was most strongly associated with erection dysfunction, orgasmic problems, and reduced sexual desire and sexual satisfaction [20].

Based on these findings, Timmer concluded that psychological problems, specifically mood, had a greater influence on sexual functioning than disease-specific factors.

Nonetheless, despite this obvious relevance, and evidence that sexual life is an important factor of patients' QoL, sexual problems are rarely addressed in the clinical management of individuals with IBD. Therefore, the aim of this review is to discuss sexuality in IBD, specifically for female and male patients.

Sexual problems in female patients with IBD

The literature provides conflicting data on sexuality in women with IBD, however majority of them indicates their impaired sexual function compared to healthy controls [21].

Shmidt *et al.* conducted a longitudinal study of sexuality in women with newly diagnosed IBD, and they found that almost all participants experienced sexual dysfunction that did not improve over time despite improvement in overall disease activity [22]. These observations are not surprising, since data shows that depressed mood, not disease itself, is the most important factor associated with decreased sexual functioning in IBD, irrespective of sex [2].

Perez-Rodriguea *et al.* described sexual function in Puerto Rican female patients with IBD.

The authors found that sexuality decreased with age ($p = 0.001$). The domains of excitation, lubrication, orgasm, and satisfaction were the most negatively affected ($p < 0.05$) by increasing age. Multivariate analysis confirmed the effect of age on excitation, lubrication, orgasm, and pain [23]. These data are consistent with the general observation for the healthy population that sexual function decreases with age [24].

A Danish group examined sexual function in a large population-based cohort consisting of 38,011 women including 196 (0.5%) with CD and 409 (1.1%) with UC. Compared to women without IBD, women with UC did not have significantly decreased sexual function, while women with CD had more difficulty achieving orgasm (adjusted odds ratio (aOR) = 1.53; 95% confidence interval (CI): 1.02–2.30), increased dyspareunia (aOR = 1.71; 95% CI: 1.11–2.63), and deep dyspareunia (aOR = 2.00; 95% CI: 1.24–3.22). The risk for difficulty achieving orgasm and deep dyspareunia was further increased within 2 years of an IBD-related contact/visit (aOR = 1.81; 95% CI: 1.11–2.95; and aOR = 2.37; 95% CI: 1.34–4.19) [25]. These results are interesting because, so far, no relationship between IBD type and sexual functioning has been reported.

Data show that subjective feelings of attractiveness, femininity, and satisfaction with bodily appearance are also impaired in female IBD patients with active disease [26].

Fertility and pregnancy are substantial issues, especially for young patients. Although the data prove that fertility is not affected by the disease, and that it is comparable to the general population, a reduced birth rate is observed in patients with IBD [27]. This could be due to patients' voluntary childlessness caused by their fear [28]. Many female patients are afraid of the possible influence of pregnancy on the course of their disease. They also worry about potential consequences for the foetus, related to both the disease itself and to the medications they take [29]. Therefore, this problem should be properly addressed to the patients. The majority of drugs used in IBD treatment, except for some immunosuppressants (e.g. methotrexate – MTX, mycophenolate mofetil, thalidomide), are considered to be safe in pregnancy [30].

According to European's Crohn's and Colitis Organization (ECCO) guidelines, female patients with IBD should plan their pregnancy during the remission phase, and maintenance treatment should be conducted prior to insemination and throughout the pregnancy [31]. Regular check-up visits prior to conception, during pregnancy, and after delivery decrease the risk for patient and foetus and eliminate unnecessary fears [32, 33].

Sexual problems in male patients with IBD

Half of the patients with IBD are men, but less attention has been paid to their sexual functioning despite higher rates of sexual dysfunction and infertility in comparison to the general population [34].

O'Toole *et al.* summarised available literature on sexual function in male patients with IBD. Reported rates of sexual dysfunction in male IBD patients ranged from 10% to 50%. Between 33% and 50% of patients reported that sexual desire and satisfaction deteriorated after IBD diagnosis. Half of the patients who were sexually inactive attributed their lack of intercourse to their underlying IBD. A striking finding was that disease activity related strongly to impaired psychological function, and the most consistently reported risk factor for sexual problems in IBD patients was co-existing mood disorders. Hypogonadism was found to be one of the complications of IBD and its therapies [35]. Again, depressed mood transpired to have the greatest influence on sexual functioning in IBD, irrespective of gender.

A study by Domislovic *et al.* showed that the prevalence of sexual dysfunction in men with IBD was 18%, while erectile dysfunction was reported by 30.3% of these patients. Both problems were highest among 21–30-year-olds, increasing after 51 years of age. In multivariate analysis, significant predictors of sexual problems in men were CD phenotype, disease duration, and the emotional domain of the QoL questionnaire (IBDQ), while depression, emotional, and bowel domains of the IBDQ were strongly associated with erectile dysfunction [36]. Similarly to a study on female patients, CD (not UC) was associated with sexual dysfunction. This finding needs further investigation.

Shmidt *et al.* aimed to describe sexual function at baseline and over time and to identify factors associated with sexual dysfunction in men with IBD. They reported that at baseline, 39% of men had global sexual dysfunction and 94% had erectile dysfunction. Independent factors associated with erectile dysfunction were older age and lower physical and mental component summary scores on the Short Form Health Survey (SF-36) [37].

A Korean study reviewed the association between male sexual function and surgery, medication, lifestyle habits such as alcohol and tobacco use, nutritional status, and psychological factors in men with IBD. This metanalysis revealed that 5-ASA and MTX should be discontinued before conception, if possible. No study has reported significant adverse effects on pregnancy outcomes associated with the use of surgery and medications including azathioprine (AZA), steroids, and biological agents. Additionally, this review has shown that discontinuing alcohol and tobacco use, and improving nutritional status as well as mental health, help to control the disease and improve patients' QoL [38].

Fertility in male patients with IBD is generally unchanged, but abscesses and perianal fistulas may have a negative impact on erection and ejaculation [39]. Medications used in IBD, such as sulphasalazine and MTX, potentially cause reversible oligospermia (which disappears 2–3 month after drug withdrawal) in approximately 80–90% of men [40]. However, this disorder is caused by sulphapiridine (a metabolite of sulphasalazine), which may be avoided by replacing sulphasalazine with another 5-ASA agent (e.g. mesalazine) at least 2–3 months before planned fertilization. Animal studies and some clinical trials have demonstrated reversible oligospermia during MTX therapy; therefore, some authors recommend fertilization 3–6 months after MTX withdrawal [41]. Data show that AZA is safe, and thus withdrawal of treatment with AZA or 6-mercaptophurine in male patients at reproductive age is not recommended [42]. However, discontinuing these drugs 3 months before fertilization can be considered [3, 43, 44].

Conclusions

Many studies have demonstrated that sexual function is an important concern in patients with IBD, and it has been shown that the prevalence of sexual dysfunction in IBD is higher than in the general population. The aetiology of impairment in patients' sexual functioning is multifactorial – biological, psychosocial, and disease-specific factors are involved. However, mood disorders, specifically depression, seem to be the most important factor influencing patients' sexual functioning.

Currently, there are no formal recommendations on how to manage sexual disfunction in IBD patients. Nonetheless, physicians should be aware of them and try to address this problem properly, because sexual functioning is one of the major determinants of patients' QoL.

Acknowledgments

M. Kotkowicz-Sczur and E. Szymanska made equal contributions to this manuscript.

Conflict of interest

The authors declare no conflict of interest.

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Received: 6.03.2022
Accepted: 20.04.2022