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LETTER TO THE EDITOR

Both men and women with functional gastrointestinal disorders suffer from a high incidence of sexual dysfunction

To the editor,

Patients with functional gastrointestinal disorders (FGIDs) frequently report different digestive symptoms as well as extra digestive disorders such as fibromyalgia, chronic fatigue and chronic pelvic pain [1]. They also complain of sexual dysfunction as well as psychological or psychiatric comorbidities [1]. In the literature, as compared with female control subjects, up to 50% [2] of female patients with irritable bowel syndrome (IBS) complain of sexual disorders, including reduced sexual drive [2], increased (42%) dyspareunia [3], high rate of intercourse avoidance (48%) [4], and increase of IBS symptoms during menses [5], but the most common sexual dysfunctions in IBS patients may be decreased libido, decreased sexual drive, and dyspareunia [2]. Conversely, among patients referred by general practitioners to a gynecological clinic dyspareunia was often found to be associated with IBS [6].

The constantly growing interest in the influences of psychosocial factors on the pathogenesis, course, severity and outcome of FGID highlights the place of environmental and psychosocial stressors in the biopsychosocial model of FGIDs, and their role in the onset and course of symptoms [7,8]. During life, stressful life events may influence digestive function, symptom perception, illness behavior, and consequently poor quality of life [7]. Despite all these considerations, there are few studies on the association of sexual dysfunction with FGIDs in men and women.

The aim of the present study is to search for a possible association between FGIDs with sexual disorders in FGID patients according to their gender and their psychological profile.

On the 1485 consecutive outpatients referred to the *Centre d'exploration fonctionnelle et de rééducation digestive* (CEFRED) of the Avicenne Hospital, from January, 1, 2008 to May, 31, 2014, a tertiary center for FGID management by a gastroenterologist after initial symptomatic treatment failed or for more refined diagnostic purposes before starting any kind of treatment. The study was declared to the French National Agency for drug safety (*Agence nationale de sécurité du médicament et des produits de santé* [ANSM], decision number: 2015-A01731-48). Before inclusion, a full evaluation failed to yield any organic cause for their complaint. Patients that never had vaginal intercourse, patients with a history of previous surgery of the gastrointestinal tract, drug or alcohol addiction, overweighed patients that participated in a specific program for losing weight (gastric balloon, bariatric surgery), were excluded from the study.

In this prospective observational study, after inclusion, the patients filled out a clinical questionnaire including a self-evaluation of bowel symptoms [9], stool description was recorded using the Bristol Stool Form Scale [10], and a psychometric evaluation focused on anxiety and depression [11].

In addition, a questionnaire about urinary disorders (urinary incontinence, dysuria, pollakiuria), the Urinary Symptom profile, was filled by all patients [12]. Concerning sexual dysfunction, two questions were asked, with answer yes or no:

- do you experience pain during sexual activity?
- if you are a man, do you have erectile dysfunction?

Statistical analyses were carried out using IBM SPSS (IBM Corp. Released 2011. IBM SPSS Statistics for Windows®, Version 20.0. Armonk, NY: IBM Corp). For quantitative variables, the results were expressed as mean ± SD (standard deviation). Chi^2 tests were used for analysis of qualitative variables. Categorical differences among the groups were analyzed by one-way analysis of variance (ANOVA). Multiple comparisons with post hoc tests using Bonferroni correction were used if ANOVA showed significant differences. Logistic regression was used for data analysis that included systematically as independent variables: age, gender, BMI, functional bowel disorders, Bristol stool form scale scores, self-evaluation of the symptoms and the three psychological scale scores (BD-II, A1, A2) as dependent variable. The backwards selection procedure was used for model selection during multivariate logistic regression. Statistically significant variables ($P < 0.01$) remained in the adjusted model.

Abbreviations: BMI, Body mass index; FGID, Functional gastrointestinal disorder; IBS, Irritable bowel syndrome.

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Out of the 1485 patients selected, 1150 patients were included in the study. The vast majority of the 335 rejected patients did not score positive for an FGID. A very small number of subjects (15) did not have vaginal intercourse. There was a clear female predominance (70% female). Mean age of patients was 48.6 ± 16.7 years, (body mass index [BMI]: 26.7 ± 7.8 kg/m^2). Female patients had higher BMI (27.1 ± 8.8 vs 25.6 ± 4.1; $P = 0.003$) and were younger (47.6 ± 16.7 vs. 50.8 ± 16.5; $P = 0.003$) than male patients. 398 women were menopaused (49%).

As compared to male patients, women patients suffered more frequently of IBS with constipation (12% vs 4%;

Table 1 Patients characteristics according to the presence of sexual disorders.

	No sexual disorders	Sexual disorders	*P*
Demographics			
n	990 (86)	160 (14)	< 0.001
Gender (% women)	699 (71)	112 (70)	0.861
Body mass index (kg/m^2)	26.7 ± 8.0	26.2 ± 5.8	0.395
Age (years)	48.4 ± 16.7	49.2 ± 16.3	0.609
Menopaused women (%)	355 (51)	43 (38)	0.010
Psychologic			
Depression	12.2 ± 13.7	18.4 ± 15.4	< 0.001
State anxiety	40.3 ± 15.2	46.7 ± 15.7	< 0.001
Trait anxiety	44.6 ± 16.7	47.5 ± 13.4	0.033
Gastrointestinal disorders			
Esophageal			
Globus	182 (18)	45 (28)	0.004
Regurgitation	123 (12)	28 (18)	0.078
Chest pain	258 (26)	58 (36)	0.007
Heartburn	313 (32)	69 (43)	0.004
Dysphagia	223 (23)	40 (25)	0.499
Gastroduodenal			
Epigastric pain	72 (7)	15 (9)	0.351
Postprandial distress	170 (17)	32 (20)	0.383
Dyspepsia	223 (23)	53 (33)	0.004
Aerophagia	244 (25)	56 (35)	0.006
Bowel			
IBS all subtypes	301 (30)	79 (49)	< 0.001
IBS with constipation	92 (9)	19 (12)	0.305
IBS with diarrhea	98 (10)	26 (16)	0.016
Mixed IBS	51 (5)	22 (14)	< 0.001
IBS Unstyped	60 (6)	12 (8)	0.486
Constipation	174 (18)	28 (18)	0.981
Diarrhea	114 (12)	16 (10)	0.314
Bloating	83 (8)	18 (11)	0.235
Non specific bowel disorders	106 (11)	9 (6)	0.047
Abdominal pain	83 (8)	23 (14)	0.015
Anorectal			
Soiling	78 (8)	22 (14)	0.014
Fecal incontinence	70 (7)	19 (12)	0.035
Levator ani syndrome	54 (5)	18 (11)	0.005
Proctalgia fugax	51 (5)	15 (9)	0.033
Non specific anorectal pain	49 (5)	13 (8)	0.099
Difficult defecation	307 (31)	80 (50)	< 0.001
Extra digestive disorders			
Urological disorders	184 (19)	54 (34)	< 0.001
Likert scales			
Constipation	2.2 ± 3.0	3.2 ± 3.2	< 0.001
Diarrhea	1.6 ± 2.5	2.2 ± 3.0	0.003
Bloating	3.3 ± 3.2	4.4 ± 3.2	< 0.001
Abdominal pain	3.0 ± 3.0	4.4 ± 3.3	< 0.001
Bristol stool form	3.8 ± 1.8	3.7 ± 2.1	0.720

IBS: irritable bowel syndrome. Quantitative variables are expressed as mean ± SD and qualitative variables are expressed as *n* (%).

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