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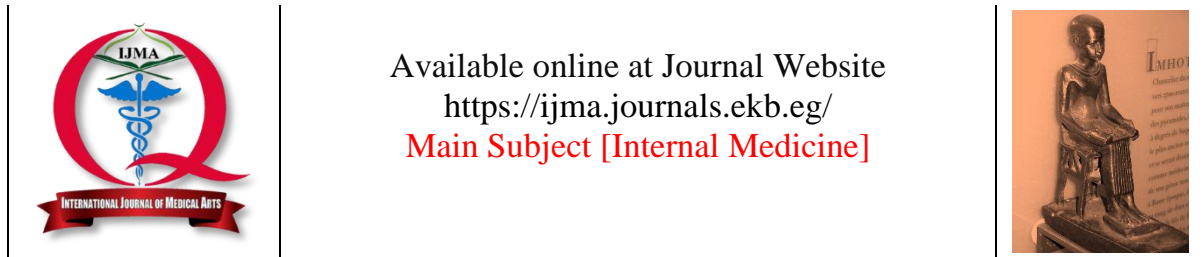


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## Original Article

# Evaluation of Sexual Function in Egyptians with Irritable Bowel Syndrome: A Case-Control Study

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## ABSTRACT

### Article information

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**Background:** Irritable bowel syndrome [IBS] is a common functional gastrointestinal disorder that affects quality of life. Sexual health is an important aspect of quality of life that has received little attention in IBS.

**The aim of the work:** To identify the effect of IBS on the sexual function of males and females in Egypt.

**Patients and Methods:** This was a case-control study involving both genders with confirmed IBS diagnosis based on Rome IV criteria. One hundred patients [50 males and 50 females] and 100 age- and gender-matched controls were included. The validated Arabic version of the International Index of Erectile Function questionnaire [IIEF-5] was applied for males, and the validated version of the Female Sexual Function Index [FSFI] was utilized to evaluate their sexual function.

**Results:** Our research included 50 sexually active married IBS women, whose ages varied from 18 to 50 years with a mean  $\pm$ SD of  $32.88 \pm 9.25$ , with no significant difference with the control group. Forty percent of male IBS patients had sexual dysfunction while 90% of female IBS group patients suffered from sexual dysfunction. Regarding the total IIEF-5 scores, a statistically significant variance was found among the IBS group and control group [ $p < 0.05$ ].

**Conclusion:** The findings of this research indicated that IBS affects the sexual function of patients of both genders, and the risk of erectile dysfunction [ED] increases with age. Further research exploring the impact of IBS on sexual function in different age groups and its specific effects on male and female sexual health may provide valuable insights for developing tailored interventions and treatment strategies.

**Keywords:** Female Sexual Dysfunction; Irritable Bowel Syndrome; Male Sexual Dysfunction.



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## INTRODUCTION

Irritable bowel syndrome [IBS] is a functional bowel condition characterized by recurring stomach discomfort and changes in defecation patterns. Symptoms such as abdominal bloating/distension and irregular bowel movements [including constipation, diarrhea, or a combination of both] are hallmarks of this condition. It is recommended that symptoms have been present for at least the past three months, with onset occurring a minimum of six months before diagnosis<sup>[1]</sup>.

Seven percent of people in Southeast Asia suffer from IBS, compared to 12% in both Northern Europe and North America, and 21% in South America<sup>[2]</sup>. Research conducted by **Darweesh et al.**<sup>[3]</sup> at the University of Suez Canal in Egypt revealed that 23.1% of the student body suffers from IBS. This prevalence was higher among non-medical students [23.8% vs. 22.1% among medical students] and varied by IBS type.

Exactly what causes IBS has not been determined. There have been a number of possible explanations. An inability to regulate serotonin levels led to increased visceral sensitivity and bloating. In individuals with IBS, plasma cortisol was proportional to plasma serotonin<sup>[4]</sup>.

Female sexual dysfunction refers to a broad spectrum of conditions that negatively affect sexual desire and arousal, the female orgasmic experience, and genitourinary pain and penetration problems. These issues with sexual health are not classified as dysfunctions until they result in emotional suffering<sup>[5]</sup>.

Male sexual dysfunction is defined as the inability to have satisfying sexual encounters. It includes a wide range of conditions that negatively impact desire, erection, ejaculation, and/or sexual pleasure. Both physical and mental health issues can contribute to sexual dysfunction, and physical and psychological factors often work together to cause it<sup>[6]</sup>.

Sexual functioning may be affected by digestive issues such as bloating, flatulence, soiling, and abdominal discomfort. An estimated 11.2% of the world's population suffers from IBS, making it the most prevalent functional gastrointestinal condition<sup>[7]</sup>.

Inflammatory cytokines are involved in endothelial dysfunction, which contributes to the pathogenesis of erectile dysfunction [ED]. Studies

have found that ED is associated with increasing levels of inflammatory cytokines. These cytokines are strongly related to the pathophysiologic mechanisms of both IBS and ED. Additionally, SK3, one of the small-conductance  $Ca^{2+}$ -activated  $K^+$  [SK] channel members, is highly expressed in the smooth muscle of the gastrointestinal tract and the corpus cavernosum<sup>[8]</sup>. The high expression of SK3, which is involved in the smooth muscle-rich tissue of the gastrointestinal tract and the corpus cavernosum, is associated with both IBS and ED. The association between IBS and ED exists<sup>[9]</sup>.

Reports of sexual dysfunction among people with IBS are rare and often originate from quality-of-life surveys. Individuals with IBS appear to experience greater sexual difficulties than controls<sup>[10]</sup>.

Currently, no studies have been conducted in Egypt to examine the prevalence of sexual dysfunction in patients with IBS. The objective of our work was to determine the impact of IBS on the sexual function of males and females in Egypt.

## PATIENTS AND METHODS

A case-control study was conducted at Helwan University Hospital with male and female patients aged 18-50 years who engaged in regular sexual activity and had a confirmed diagnosis of irritable bowel syndrome based on the Rome IV criteria. This study received approval from the Faculty of Medicine, Helwan University, Research Ethics Committee, No: 73-2021. All selected participants were informed about the research details and signed an informed consent form before being enrolled.

Patients with a history of any psychological or medical conditions known to affect sexual function [such as hypertension, coronary heart disease, or diabetes mellitus], those taking medications that affect sexual function, smokers, individuals with penile deformities, and females with hormonal disturbances or chronic gynecological problems were excluded from the study.

This research builds on previous work by **Kim et al.**<sup>[11]</sup>. The sample size was calculated using Epi Info STATCALC with a power of 80% and a two-sided confidence interval of 95%. An odds ratio of 1.115 was obtained with a margin of error of 5%, resulting in a required sample size of 86 patients. This sample size was increased to 100 patients to account for potential dropout.

The volunteers were then divided into two groups: **Group A:** 50 male and 50 female participants with a confirmed diagnosis of irritable bowel syndrome [IBS] according to the Rome IV criteria, and **Group B:** 100 age- and gender-matched volunteers.

### Data collection

Both groups were subjected to the following assessments: a detailed history taking that included personal history, sexual history, medical history, surgical history, therapeutic history, and clinical examination. The existence of IBS was diagnosed according to the Rome IV criteria, which define IBS as abdominal discomfort occurring at least once per week on average for the past three months, and meeting two of the following criteria: related to defecation, correlated with an alteration in stool consistency, and correlated with an alteration in stool frequency <sup>[12]</sup>.

Self-administered questionnaires were used to assess sexual function in males and females. For participants who could not read, the researcher conducted interviews to ensure the questionnaires were filled out correctly.

For male patients, a validated Arabic version of the International Index of Erectile Function questionnaire [IIEF-5] was used <sup>[13]</sup>. According to the IIEF-5, scores were classified as follows: 8-11 for moderate erectile dysfunction, 5-7 for severe erectile dysfunction, 17-21 for mild erectile dysfunction, 12-16 for mild to moderate erectile dysfunction, and 22-25 for no erectile dysfunction.

For female patients, the Female Sexual Function Index [FSFI] was analyzed for validity and reproducibility after being translated into Arabic <sup>[14]</sup>. The questionnaire consists of 19 items covering various domains of sexual function, including arousal, satisfaction, sexual desire, lubrication, orgasm, and pain during sexual activity or intercourse. The FSFI assesses sexual functioning in women across six separate domains: desire [items 1 and 2], arousal [items 3 to 6], lubrication [items 7 to 10], orgasm [items 11 to 13], satisfaction [items 14 to 16], and pain [items 17 to 19].

The total score on the FSFI can be computed using a simple scoring algorithm. An FSFI total score of  $\leq 28.1$  was considered diagnostic of female sexual dysfunction [FSD] <sup>[14]</sup>.

**Statistical analysis:** Required information was collected, coded, revised, and entered into the Statistical Package for Social Sciences [IBM SPSS] version 23. The data were statistically expressed using terms such as standard deviation [SD], median, mean, and range for non-normally distributed information; frequencies [number of instances]; and relative frequencies [percentages] when appropriate. The ANOVA and Student's t-test were utilized to compare quantitative variables. The Mann-Whitney U test and the Kruskal-Wallis test were used to compare quantitative variables with non-normally distributed data. To analyze changes in the dependent quantitative data over time, the Friedman test was employed. A Chi-square [ $\chi^2$ ] test was conducted to compare categorical data. When the expected frequency was fewer than five, the Fisher exact test was used instead. The significance threshold for the p-value was consistently set at 0.05, with two-tailed testing.

## RESULTS

This case-control study was conducted on 100 males and females with a confirmed diagnosis of Irritable Bowel Syndrome [IBS] and a matched control group of 100 participants of the same age and sex. The mean age of males diagnosed with IBS was  $33.46 \pm 7.74$  years, with no statistically significant variance compared to the control group in terms of age, education, occupation, and residency [Table 1].

Regarding total IIEF-5 scores, IBS patients ranged from 6 to 23, with a mean score of  $17.04 \pm 5.12$ . Forty percent of them had erectile dysfunction, whereas in the control group, scores ranged from 14 to 25, with a mean of  $21.6 \pm 1.96$ , and 16% had erectile dysfunction. The data also showed that 20% of IBS patients had mild erectile dysfunction, while 4% had mild to moderate ED, 8% had moderate ED, and 8% had severe ED. In the control group, 12% had mild erectile dysfunction, and 4% had mild to moderate ED. A statistically significant variance was observed between the two groups [ $p < 0.05$ ], as shown in Table 2.

To evaluate the impact of age on erectile dysfunction [ED], IBS cases were divided into three age groups. The mean IIEF-5 scores were  $16.2 \pm 5.76$  for patients aged 18 to 30 years,  $18 \pm 3.69$  for patients aged 31 to 40 years, and the lowest mean score of  $10.33 \pm 4.53$  for patients aged 41 to 50 years, with a statistically significant difference among the three groups [Table 3].

The study included 100 sexually active married women. The age of the female IBS group ranged from 18 to 50 years, with a mean  $\pm$  SD of  $32.88 \pm 9.25$  years, while in the control group, the age ranged from 18 to 49 years, with a mean  $\pm$  SD of  $34.4 \pm 9.97$  years. No significant difference was found between the two groups regarding age, education, occupation, and residency [Table 4].

The domains of sexual desire, orgasm, arousal, and satisfaction showed a significant decrease in female IBS patients compared to the control group [ $p < 0.001$ ]. The pain domain showed a significant increase in female IBS cases compared to the

control group [ $p < 0.001$ ], while the lubrication domain did not show any significant variance between the two groups [ $p > 0.05$ ] [Table 5].

Table 6 shows the total scores for all domains among the two groups. In female IBS patients, scores ranged from 7 to 29, with a mean score of  $14.04 \pm 4.05$ . In the control group, scores ranged from 15 to 35, with a mean score of  $19.2 \pm 5.86$ . Among the two groups, 90% of female IBS patients had sexual dysfunction, whereas 46% of female patients in the control group had sexual dysfunction.

**Table [1]:** General characteristics among the male IBS group & the male control groups

Variable		IBS group [No. = 50]		Control group [No. = 50]		Test value	P-value
		No.	%	No.	%		
Age groups	18-30	20	40.0%	20	40.0%	$X^2= 2.471$	0.866
	31-40	20	40.0%	18	36.0%		
	41- 50	10	20.0%	12	24.0%		
Age [years]	Mean $\pm$ SD	33.46 $\pm$ 7.74		33.82 $\pm$ 8.98		t= 0.215	0.830
	Median	32		34.5			
	Range	18-50		18-50			
Education [graduated from]	Primary school	12	24.0%	18	36.0%	$X^2= 2.40$	0.301
	High school	20	40.0%	20	40.0%		
	University	18	36.0%	12	24.0%		
Occupation	Employed	39	78.0%	34	68.0%	$X^2= 0.812$	0.368
	Unemployed	11	22.0%	16	32.0%		
Residency	Rural	29	58%	30	60.0%	$X^2= 0.028$	0.867
	Urban	21	42%	20	40.0%		

**Table [2]:** IIEF-5 score among the male IBS group and the control group

Variable		IBS group [No. = 50]	Control group [No. = 50]	Test	P-value
IIEF-5 score, n [%]	Mild erectile dysfunction [17-21]	10 [20.0%]	6 [12.0%]	$X^2= 11.001$	<b>0.026</b>
	Mild to moderate erectile dysfunction [12-16]	2 [4.0%]	2 [4.0%]		
	Moderate erectile dysfunction [8-11]	4 [8.0%]	0 [0.0%]		
	Severe erectile dysfunction [5-7]	4 [8.0%]	0 [0.0%]		
	Total number of Erectile dysfunctions	20 [40%]	8 [16%]	$X^2= 7.1429$	<b>0.0075</b>
Total score	Mean $\pm$ SD	17.04 $\pm$ 5.12	21.6 $\pm$ 1.96	t=5.88	<b>&lt;0.001</b>
	Median	17.5	22		
	Range	6-23	14-25		

**Table [3]:** IIEF-5 score among the three aged groups of the male IBS group

Variable		Group I [No. = 20]	Group II [No. = 20]	Group III [No. = 10]	P-value
IIEF-5 score	Mean $\pm$ SD	16.2 $\pm$ 5.76	18 $\pm$ 3.69	10.33 $\pm$ 4.53	<b>&lt;0.0001</b>
	Median [Range]	18 [6-20]	18.5 [11-21]	9 [5-17]	
IIEF-5 category	Mild erectile dysfunction [17-21]	4 [20%]	5 [25%]	1 [10%]	<b>0.00141</b>
	Mild to moderate erectile dysfunction [12-16]	0 [0%]	0 [0%]	2 [20%]	
	Moderate erectile dysfunction [8-11]	0 [0%]	1 [5%]	3 [30%]	
	Severe erectile dysfunction [5-7]	1 [5%]	0 [0%]	3 [30%]	

Total number of Erectile dysfunctions	5 [25%]	6 [30%]	9 [90%]
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**Table [4]:** Demographic characteristics among female IBS group and female control group

Variable	IBS female group [No. = 50]		Control group [No. = 50]		Chi square test/ Unpaired Student T test	P-value	
	No.	%	No.	%			
Age groups	18-30	20	40.0%	21	42.0%	X <sup>2</sup> = 4.923	0.085
	31-40	20	40.0%	11	22.0%		
	41- 50	10	20.0%	18	36.0%		
Age [years]	Mean± SD	32.88±9.25		34.4±9.97		T= 0.790	0.431
	Median	32		34.5			
	Range	18-50		18-49			
Education [Graduated from]	Primary school	21	42.0%	19	38.0%	X <sup>2</sup> = 0.243	0.886
	High school	13	26.0%	15	30.0%		
	University	16	32.0%	16	32.0%		
Occupation	Employed	23	46.0%	26	52.0%	X <sup>2</sup> = 0.360	0.548
	Unemployed	27	54.0%	24	48.0%		
Residency	Rural	29	58.0%	31	62.0%	X <sup>2</sup> = 0.167	0.683
	Urban	21	42.0%	19	38.0%		

**Table [5]:** Scores of domains among the Female IBS group and the female control group according to Arabic Female Sexual Function Index

		IBS group [No. = 50]	Control group [No. = 50]	Mann Whitney U test	P-value
Desire Domain	Mean± SD	3.5±1.3	4.0±0.6	4.69	<0.001
	Median	3	3.5		
	Range	1-5	3-5		
Arousal Domain	Mean± SD	3.5±1.53	4.0±1.32	4.77	<0.001
	Median	2	3		
	Range	0-5	3-5		
Lubrication Domain	Mean± SD	4±0.6	4±0.8	0.007	0.994
	Median	2	3		
	Range	0-5	3-5		
Orgasm Domain	Mean± SD	3±1.64	4±0.68	3.98	<0.001
	Median	2	3		
	Range	0-5	3-5		
Satisfaction Domain	Mean± SD	3±0.63	4±0.49	8.86	<0.001
	Median	2	3		
	Range	0-5	3-5		
Pain Domain	Mean± SD	3.5±1.53	2.0±0.4	14.63	<0.001
	Median	3.5	2		
	Range	1-5	3-5		

**Table [6]:** Total score of Female Sexual function index between the female IBS group and the female control group

		IBS group [No. = 50]	Control group [No. = 50]	Unpaired Student T Test	P-value
Total score	Mean± SD	14.04 ± 4.05	19.2 ± 5.86	2.578	0.011
	Median	15	17		
	Range	7-29	15-35		
				chi square test	P-value
Sexual dysfunction		45 [90%]	23 [46%]	22.24	<0.001

## DISCUSSION

Irritable Bowel Syndrome [IBS] is a functional gastrointestinal [GI] disorder that is prevalent in

Europe and North America, with a prevalence of 12 to 15 percent. Patients typically present with symptoms such as bloating, abdominal discomfort, and changes in bowel patterns. Subtypes include

those with an elevated level of either constipation, diarrhea, or both. The Rome IV criteria are suggested for diagnosing IBS [15].

In our study, we found that no significant variance was observed among the IBS group concerning age, education, occupation, and residency. Our age groups were younger than those included in the cohort study by **Hsu et al.** [9], which found that 48.2% of the patients were under the age of 49 among the 15,533 IBS patients and the 62,124 controls without IBS. The average age of those without IBS was  $51.7 \pm 17.1$  years, while those with IBS had an average age of  $52.2 \pm 16.9$  years.

According to the IIEF-5 scores in this research, we found that among male IBS cases, 60% had no erectile dysfunction [ED], while 20% had mild ED, 4% had mild to moderate ED, 8% had moderate ED, and 8% had severe ED. In the control group, 84% of patients had no ED, while 12% had mild ED and 4% had mild to moderate ED. In our study, the overall frequency of ED was 2.5 times greater in the IBS group than in the control group.

These findings are consistent with the results of **Hsu et al.** [9], who discovered that the overall prevalence of erectile dysfunction was 2.3 times greater in the irritable bowel syndrome cohort compared to the non-irritable bowel syndrome cohort. Among IBS patients, 40% of males had ED, while in the control group, 16% of males had erectile dysfunction. A statistically significant difference was detected between the two groups concerning the total IIEF-5 scores.

The findings were consistent with those of **Rivière et al.** [16], who observed that the rates of erectile dysfunction in men with IBD were as high as 55%, compared to 13% in the general population of a similar age.

In our study, we divided male IBS patients into three age groups: Group I: 18–30 years old; Group II: 31–40 years old; and Group III: 41–50 years old.

There was a statistically significant distinction in IIEF-5 scores and ED classifications among the three groups. These findings align with the results of **Chao et al.** [17], who discovered an increased risk of erectile dysfunction with age and a greater prevalence of ED in the IBS cohort compared to the non-irritable bowel syndrome cohort.

Our study included 50 sexually active married women, aged 18 to 50 years, with a mean  $\pm$  SD of  $32.88 \pm 9.25$  years, and a matched control group of 50 participants. No significant variance was found between the IBS and control groups regarding age, occupation, education and residency.

These findings are consistent with the outcomes of **Camacho et al.** [18], who found that among the 117 women recruited, there was no significant distinction between IBS women and non-IBS women with respect to age, education, and occupation.

In this study, according to the FSFI, we found that the domains of sexual desire, orgasm, arousal, satisfaction, and pain showed a significant decrease in female IBS cases compared to the control group. The lubrication domain showed no significant variance between the two groups.

These findings are in accordance with the results of **Slawik et al.** [19], which indicated that IBS in women leads to a substantial reduction in both the overall FSFI score and its specific domains, except for the lubrication domain, which was significantly different from that of healthy controls. This contrasts with our results.

Regarding the total FSFI score, we found that sexual dysfunction was present in all domains among the two groups. In the IBS group, 90% of female patients had sexual dysfunction, while in the control group, 46% of female patients had sexual dysfunction. A statistically significant variance was found between the two groups concerning the total score of all domains, which was significantly lower in female IBS patients.

These findings are consistent with the results of **Rivière et al.** [16], who found that among the female sample, 77.5% experienced sexual dysfunction compared to 28% in healthy controls.

In this study, we found that 40% of male IBS patients had sexual dysfunction, while 90% of female IBS patients had sexual dysfunction. A statistically significant variance was observed between the two groups regarding sexual dysfunction. Our results are consistent with those of **Rivière et al.** [16], who found that the prevalence of erectile dysfunction [ED] was 55% [37/122], while there was a considerably greater prevalence of sexual dysfunction in women at 77.5%.

**Conclusions:** The findings of this study indicate that IBS affects sexual function in both male and



female cases, and the risk of ED increases with age.

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**Conflict of Interest:** None

## REFERENCES

- Vork L, Weerts ZZRM, Mujagic Z, Kruijmel JW, Hesselink MAM, Muris JWM, et al. Rome III vs Rome IV criteria for irritable bowel syndrome: A comparison of clinical characteristics in a large cohort study. *Neurogastroenterol Motil.* 2018 Feb; 30[2]. doi: 10.1111/nmo.13189.
- Kamp EJ, Kane JS, Ford AC. Irritable Bowel Syndrome and Microscopic Colitis: A Systematic Review and Meta-analysis. *Clin Gastroenterol Hepatol.* 2016 May;14[5]:659-68.e1; quiz e54-5. doi: 10.1016/j.cgh.2015.09.031.
- Darweesh MM, Abd El Hameed MA, Hassan YM, Abd El Rheem KA, Mohamed SA, Mahdy MA, Slwawy AA, El Ftooh MM. The prevalence of irritable bowel syndrome among medical and non-medical Suez Canal University students. *Open J Gastroenterol.* 2015 May 21;5[05]:42-48. doi: 10.4236/ojgas.2015.55009.
- Stasi C, Bellini M, Bassotti G, Blandizzi C, Milani S. Serotonin receptors and their role in the pathophysiology and therapy of irritable bowel syndrome. *Tech Coloproctol.* 2014 Jul;18[7]:613-21. doi: 10.1007/s10151-013-1106-8.
- Shifren JL, Braunstein GD, Simon JA, Casson PR, Buster JE, Redmond GP, et al. Transdermal testosterone treatment in women with impaired sexual function after oophorectomy. *N Engl J Med.* 2000 Sep 7;343[10]:682-8. doi: 10.1056/NEJM200009073431002.
- Ziring D, Berg K, Mingioni N, Papanagnou D, Vaid U, Herrine S. Sidney Kimmel Medical College at Thomas Jefferson University. *Acad Med.* 2020 Sep;95[9S A Snapshot of Medical Student Education in the United States and Canada: Reports From 145 Schools]:S444-S448. doi: 10.1097/ACM.0000000000003326.
- Lovell RM, Ford AC. Global prevalence of and risk factors for irritable bowel syndrome: a meta-analysis. *Clin Gastroenterol Hepatol.* 2012 Jul;10[7]:712-721.e4. doi: 10.1016/j.cgh.2012.02.029.
- Bouloukaki I, Papadimitriou V, Sofras F, Mermigkis C, Moniaki V, Siafakas NM, Schiza SE. Abnormal cytokine profile in patients with obstructive sleep apnea-hypopnea syndrome and erectile dysfunction. *Mediators Inflamm.* 2014;2014:568951. doi: 10.1155/2014/568951.
- Hsu CY, Lin CL, Kao CH. Irritable bowel syndrome is associated not only with organic but also psychogenic erectile dysfunction. *Int J Impot Res.* 2015;27[6]:233-8. doi: 10.1038/ijir.2015.25.
- Sørensen J, Schantz Laursen B, Drewes AM, Krarup AL. The Incidence of Sexual Dysfunction in Patients With Irritable Bowel Syndrome. *Sex Med.* 2019 Dec;7[4]:371-383. doi: 10.1016/j.esxm.2019.08.010.
- Kim YS, Kim N. Sex-Gender Differences in Irritable Bowel Syndrome. *J Neurogastroenterol Motil.* 2018 Oct 1;24[4]:544-558. doi: 10.5056/jnm18082.
- Lacy BE, Patel NK. Rome Criteria and a Diagnostic Approach to Irritable Bowel Syndrome. *J Clin Med.* 2017 Oct 26;6[11]:99. doi: 10.3390/jcm6110099.
- Shamloul R, Ghanem H, Abou-zeid A. Validity of the Arabic version of the sexual health inventory for men among Egyptians. *Int J Impot Res.* 2004 Oct;16[5]:452-5. doi: 10.1038/sj.ijir.3901248.
- Anis TH, Gheit SA, Saied HS, Al kherbash SA. Arabic translation of Female Sexual Function Index and validation in an Egyptian population. *J Sex Med.* 2011 Dec;8[12]:3370-8. doi: 10.1111/j.1743-6109.2011.02471.x.
- Yao C, Li Y, Luo L, Xie F, Xiong Q, Li T, Yang C, Feng PM. Significant Differences in Gut Microbiota Between Irritable Bowel Syndrome with Diarrhea and Healthy Controls in Southwest China. *Dig Dis Sci.* 2023 Jan;68[1]:106-127. doi: 10.1007/s10620-022-07500-0.
- Rivière P, Zallot C, Desobry P, Sabaté JM, Vergniol J, Zerbib F, et al. Frequency of and Factors Associated With Sexual Dysfunction in Patients With Inflammatory Bowel Disease. *J Crohns Colitis.* 2017 Oct;11[11]:1347-1352. doi: 10.1093/ecco-jcc/jjx100.
- Chao CH, Lin CL, Wang HY, Sung FC, Chang YJ, Kao CH. Increased subsequent risk of erectile dysfunction in patients with irritable bowel syndrome: a nationwide population-based cohort study. *Andrology.* 2013 Sep;1[5]:793-8. doi: 10.1111/j.2047-2927.2013.00120.x.
- Camacho S, Díaz A, Pérez P, Batalla H, Flores Y, Altamirano E, et al. Sexual dysfunction worsens both the general and specific quality of life of women with irritable bowel syndrome. A cross-sectional study. *BMC Womens Health.* 2023 Mar 27;23[1]:134. doi: 10.1186/s12905-023-02272-9.
- Sławik P, Szul M, Fuchs A, Waluga M, Krzystanek M. Could problems in the bedroom come from our intestines? A preliminary study of IBS and its impact on female sexuality. *Psychiatr Danub.* 2019 Sep;31[Suppl 3]:561-567. PMID: 31488791.

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