

Irritable Bowel Syndrome: Prevalence, Risk Factor among Saudi Population

Viqar Basharat, MD* Ali Mohammed Alsubaieci, MD** Ahmad Zaher Ali Alshehri, MBBS*** Hatim Abdullah Mohammed Ayied, MBBS*** Abdullah Faisal Almutairi, MD** Abdulrahman Jaber Hasan Alfaifi, MBBS*** Mohammed Khalid Alharbi, MD** Hossien Saad Salem Alqahtani, MBBS*** Ahmed Saeed Saad Alqahtani, MBBS*** Abdulhadi Mohammed I Ahmasani, MBBS**** Manar Hamdan Mohammed Alsallum, MBBS*** Ahood Ahmad Ali Mahjari, MBBS*** Entedab Saleh Salem Alyami, MBBS*** Sarah Sarah Saeed M Alqahtani, MBBS****

ABSTRACT

Study Design: Cross sectional.

Background: Irritable bowel syndrome (IBS) is a typical constant useful gastrointestinal (GI) jumble. The point of this study is to survey the commonness of IBS and its risk factors among everyone of Saudi Arabia, as there is no past review has done as such.

Techniques: A cross-sectional review was completed to assess the predominance of IBS, IBS subtypes and IBS risk factors among everyone of Saudi Arabia from June 2022 to November 2022. A planned survey that depends on ROME IV models and authorized from Rome Foundation was utilized. The regularity of irritable inside issue (IBS) generally speaking leftover parts heterogeneous. In Saudi Arabia, there are lacking assessments on the transcendence of IBS among everybody, yet the ordinariness of IBS in unambiguous master social affairs has been represented. This study was directed to conclude the power of IBS and its connected bet factors in the Abha Region of Saudi Arabia.

Methods: In this cross-sectional study, data were collected by the purposely constructed questionnaire. The study was conducted in the Aseer region of Saudi Arabia. After collection of data, data were coded and entered in the SPSS ver.20 software for analyses

Results: 71.4% were working 6-8 hours per day, 30.2% were students and 26.7% were housewives, 71.4% were living in cities while rest in villages ,61.9% were married,26.1% had diabetes ,23.2% had hypertension,28.6% were current smokers while 47.6% were non smokers otyhers left smoking .

Conclusion: The current study uncovered an IBS pervasiveness pace of 23.81% in the south-west area of Saudi Arabia. IBS was essentially connected with female sex, tobacco smoking, and emotional well-being problems, chiefly stress and tension. Our discoveries will give knowledge with respect to the effect of IBS on our local area.

Keywords: Irritable bowel syndrome, Sleep, Risk actors, Awareness

INTRODUCTION

Irritable bowel syndrome (IBS) is a typical constant useful gastrointestinal (GI) jumble. The point of this study is to survey the commonness of IBS and its risk factors among everyone of Saudi Arabia, as there is no past review has done as such¹. Techniques: A cross-sectional review was completed to assess the predominance of IBS, IBS subtypes and IBS risk factors among everyone of Saudi Arabia from June 2022 to November 2022. A planned survey that depends on ROME IV models and authorized from Rome Foundation was utilized². The regularity of irritable inside issue (IBS) generally speaking leftover parts heterogeneous. In Saudi Arabia, there are lacking assessments on the transcendence of IBS among everybody, yet the ordinariness of IBS in unambiguous master social affairs has

been represented. This study was directed to conclude the IBS and its connected bet factors in the Abha Region of Saudi Arabia^{3,4}.

(IBS) is a normal steady valuable gastrointestinal (GI) tangle. The mark of this study is to overview the regularity of IBS and its bet factors among everybody of Saudi Arabia, as there is no previous audit has done accordingly. Strategies: A cross-sectional survey was finished to evaluate the transcendence of IBS, IBS subtypes and IBS risk factors among everybody of Saudi Arabia from June 22 to November 30, 2019. An arranged study that relies upon ROME IV models and approved from Rome Foundation was used. An amount of 1,680 qualified individuals from different bits of Saudi Arabia took part in this open survey and were associated with the quantifiable assessment^{5,6}.

* Assistant Professor of Gastroenterology Department of Medicine
College of Medicine
King Khalid University, Abha, Saudi Arabia. E-mail: sviqar@kku.edu.sa

** General Practitioner

*** Medical Intern

**** Medical Student

The occurrence of IBS was viewed as the most elevated in the age bunch somewhere in the range of 20 and 40 years. Also, a few reports recommended that the frequency of IBS is higher in females contrasted with males. IBS can likewise be impacted by hereditary ramifications, where family ancestry can assume a part in the improvement of IBS in up to 30% of the patients^{7,8}.

Food sensitivities have likewise been corresponded to the event of IBS symptoms. However, the connection among's smoking and IBS stays to be determined. Additionally, mental pressure is a huge contributing variable for the event of IBS. Abuse in youth or adulthood is proven now to be related with IBS, in spite of the fact that whether it is of etiological significance is controversial. Anxiety and sadness are likewise normal in IBS.⁹

As far as we could possibly know, this is the principal study to assess the predominance and chance elements of IBS in Saudi Arabia. Thusly, the point of the current review is to assess the prevalence, Risk Factor among Saudi Population regarding Irritable Bowel Syndrome

METHODS

In this cross-sectional study, data were collected by the purposely constructed questionnaire. A questionnaire composed of the demographic items and items related to the irritable bowel syndrome. A questionnaire was constructed after the series of discussions between the panel of experts this panel was composed of a subject specialist,

researcher, language expert. Cronbach alpha of the questionnaire was calculated. The study was conducted in the Aseer region of Saudi Arabia.

After collection of data, data were coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies, and %s were computed), to measure the significance differences t-test and chi-square test was used at 5% level of significance. Data was collected from the general public of Abha city of Saudi Arabia, trained data collectors explained the questionnaire to items to respondent's Ethical approval was obtained from King Khalid University, Saudi Arabia. The study duration was from February-2022 to April-2022.

RESULTS

Out of total 6300 respondents , 66.7% were male while 33.7% were females. Cronbach alpha of the questionnaire was 0.84.

As per table 1 , 71.4% were working 6-8 hours per day, 30.2% were students and 26.7% were housewives, 71.4% were living in cities while rest in villages, 61.9% were married, 26.1% had diabetes, 23.2 & had hypertension,28.6% were current smokers while 47.6% were non smokers otyhers left smoking .

As per table 2, 23.81% had ever been labelled themselves as a patient of Irritable Bowel Syndrome, 20.63% had positive family history

Table 1: Demographics

		Frequency	Percentage
Gender	Male	4200	66.7%
	Female	2100	33.3%
How many hours do you work per day ?	1-5 hours	1500	23.8%
	6-8 hours	4500	71.4%
	9-11 hours	200	3.2%
	12 and above	100	1.6%
What is your Profession ?	Military sector	500	7.9%
	Education sector	900	14.3%
	Medical sector	800	12.7%
	Student	1900	30.2%
	civil servant	290	4.6%
	house wife	1682	26.7%
	un employed	159	2.5%
	retired	50	0.8%
	others	19	0.3%
Where do you live ?	City	4500	71.4%
	Village	1800	28.6%
Marital status	Married	3900	61.9%
	Unmarried	2400	38.1%
Monthly Income in SAR	less than 5000	700	11.1%
	5000-15000	3925	62.3%
	Above 15000	1675	26.6%
Smoking status	Non smoker	3000	47.6%
	Ex-smoker	1500	23.8%
	Smoker	1800	28.6%
	Diabetes	1645	26.1%
	Hypertension	1459	23.2%
Do you have any chronic disease?	Asthma	459	7.3%
	Others	1200	19.0%
	No chronic diseases	1537	24.4%

Table 2: Items related to the Irritable bowel syndrome

		Freq.	%
Have you ever been labelled as Irritable Bowel Syndrome?	Yes	1500	23.81%
	No	4800	76.19%
Any positive family history of Irritable Bowel Syndrome (mother, father or sibling) ?	Yes	1300	20.63%
	No	5000	79.37%
In the last 3 months, how often did you have pain anywhere in your abdomen?	Never	1800	28.57%
	Less than one day a month	1400	22.22%
	One day a month	900	14.29%
	Two to Three days a month	450	7.14%
	Once a week	450	7.14%
	Twice or Thrice a week	346	5.49%
	Most days	324	5.14%
	Almost every day	480	7.62%
	Multiple time per day	150	2.38%
	How often did this pain in your abdomen happen in association with time to bowel movement -- just before ,during ,or soon after ?(percent of times with pain)	0% Never	1500
10% = 2o		1200	19.05%
20% = 3o		1300	20.63%
30% = 4o		450	7.14%
40% = 5o		360	5.71%
50% = 6o		445	7.06%
60% = 7o		120	1.90%
70% = 8o		325	5.16%
80% = 9o		226	3.59%
90% = 10o		229	3.63%
How often did your stools become either more frequent than usual or less frequent than usual during episode of pain? (Percent of times with pain)	100% Always	145	2.30%
	0% Never		0.00%
	10% = 2o	1200	19.05%
	20% = 3o	690	10.95%
	30% = 4o	965	15.32%
	40% = 5o	375	5.95%
	50% = 6o	1000	15.87%
	60% = 7o	231	3.67%
	70% = 8o	459	7.29%
	80% = 9o	369	5.86%
Has it been 6 months or longer since you started having this pain?	90% = 10o	892	14.16%
	100% Always	119	1.89%
In the last 3 months, when you had abnormal stools character, what was the character like?	Yes	1100	17.46%
	No	5200	82.54%
Did you notice any blood in your stool ?	Usually constipation	600	9.52%
	Usually diarrhea	800	12.70%
	Both diarrhea and constipation	2600	41.27%
	Not applicable	3700	58.73%
Have you felt lost weight recently ?	Yes	1200	19.05%
	No	5100	80.95%
Did you notice any change in your appetite ?	Yes	1600	25.40%
	No	4700	74.60%
	No	3012	47.81%
	Increase	1500	23.81%
	Decrease	1788	28.38%

Table 3: Sleep related questions

	Mean	S.D
How long (in minutes) does it take for you to fall asleep each night?	0.45	2.69
How many hours of actual sleep did you get at night?	7.45	9.69
Do symptoms/sleep disturbance cause absenteeism from workplace?	Yes	1900
	No	4400

regarding irritable bowel syndrome. 23.81% had 0% pain, 19.05%, 20.63% had 10% and 20% pain respectively other were less than 10%, in response of the question, In the last 3 months, how often did you have pain anywhere in your abdomen? 28.57% had never 22.2% were Less than one day a month, in response of the question Has it been 6 months or longer since you started having this pain? 82% opted no, 80.9% did not notice blood in their stools, 25.4% loss their weight in a recent past, in response of the question Did you notice any change in your appetite almost 48% opted no.

As per table 3, the mean (SD) of time taken for fall asleep was 0.45 hours (2.69), actual sleep hours mean (SD) was 7.45 (9.69) sleep disturbance caused absenteeism in 1900 respondents.

DISCUSSION

This study uncovered a generally IBS pervasiveness of 23.81 % among the Abha population in Saudi Arabia. As far as anyone is concerned, this is the primary review among this particular populace to investigate the predominance of IBS and its related variables utilizing an Arabic interpreted and approved survey¹⁰.

The commonness of IBS in this study has all the earmarks of being higher than the worldwide IBS rate in light of the Rome IV rules, which has a typical pace of 4%. Nonetheless, the information from Middle Eastern nations in regard to IBS commonness is restricted. The various techniques used to gather this information with social contrasts might assume a part in the commonness changeability. For instance, Egypt, as a center eastern nation engaged with the OME Foundation Global Study, showed the most elevated IBS (Rome IV) predominance (7.6%) in contrast with different nations¹¹⁻¹⁴.

IBS is a typical problem that diminishes the nature of patient life. Despite the examinations on overall commonness and etiology of IBS, there isn't an adequate number of information on its predominance and hazard factors among everybody of Saudi Arabia.

The point of the current work was to investigate the predominance and hazard variables of IBS in Saudi Arabia. It was shown that the predominance of IBS in this study was 24.5% (applying Rome measures), which is inside the global pervasiveness for IBS. However, this rate is higher than the consequences of a new precise survey and meta-examination from 34 nations that contained 82,476 people (3,8%)¹¹⁻¹⁵.

Reliable with a new report that was led by Abha which explored the predominance of IBS and the most widely recognized subtypes among the northern Saudi populace utilizing Rome IV rules, we found that the most widely recognized subtype is IBS-M followed by IBS-C, - D and - U. Be that as it may, However, the current review utilized a bigger sample size. This concentrate additionally uncovered that IBS was altogether connected with the populace in the south of Saudi Arabia¹⁶.

The current study gave important data about the predominance of IBS and its related risk factors in the review populace, it actually has a few restrictions. Members who met the IBS symptomatic models in our cross-sectional review were not analyzed to preclude other potential issues. Another constraint is that utilizing an electronic cross-sectional concentrate as opposed to the conventional strategy might have impacted this study's reaction rate, especially since uneducated or people living in regions without web couldn't take part in the review test^{17,18}.

Nonetheless, web use has turned into a fundamental piece of most Saudi overall communities, and numerous neighborhood studies have been led through online stages. Besides, the cross-sectional system

utilized in this study couldn't lay out a causation among IBS and the risk factors. Of course, the qualities of this study included utilizing approved and Arabic-deciphered Rome IV poll, utilizing an irregular testing method to limit choice predisposition, and incorporation of all Abha locale areas to produce a delegate test of the real Abha populace. The ongoing review will without a doubt enhance the epidemiological information in regard to IBS commonness (utilizing the most recent Rome rules) in Saudi Arabia¹⁹.

CONCLUSION

IBS is predominant among the Saudi populace. IBS-M was the most well-known subtype among IBS patients in Saudi Arabia. The contributing elements for IBS in Saudi Arabia were demonstrated to be smoking propensities, GERD, food sensitivity, nervousness, mental pressure, family background of IBS, standard utilization of NSAIDs, history of disease before event of side effects and home in the south of Saudi Arabia.

Bringing public mindfulness up locally about the risks factors for this normal disorder is supported. Further forthcoming investigations are expected to decide the relationship of dubious risk factors with IBS.

The current study uncovered an IBS pervasiveness pace of 23.81% in the south-west area of Saudi Arabia. IBS was essentially connected with female sex, tobacco smoking, and emotional well-being problems, chiefly stress and tension. Our discoveries will give knowledge with respect to the effect of IBS on our local area. Future examinations ought to investigate the causal connection among IBS and its related risk factors in Saudi Arabia.

Authorship Contribution: All authors share equal effort contribution towards (1) substantial contributions to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

Potential Conflict of Interest: None

Competing Interest: None

Acceptance Date: 22 August 2022

REFERENCES

1. Drossman DA. Functional gastrointestinal disorders: history, pathophysiology, clinical features and Rome IV. *Gastroenterology* 2016;150:1262-79.
2. Defrees DN, Bailey J. Irritable bowel syndrome: epidemiology, pathophysiology, diagnosis, and treatment. *Prim Care* 2017;44(4):655-71.
3. Ng QX, Soh AYS, Loke W, et al. The role of inflammation in irritable bowel syndrome (IBS). *J Inflamm Res* 2018;11:345-9.
4. Palsson OS, Whitehead WE, van Tilburg MA, et al. Rome IV diagnostic questionnaires and tables for investigators and clinicians. *Gastroenterology* 2016; S0016-5085(16)00180-3.
5. Schmulson MJ, Drossman DA. What is new in Rome IV. *J Neurogastroenterol Motil* 2017;23(2):151-63.
6. Aziz I, Törnblom H, Palsson OS, et al. How the change in IBS criteria from Rome III to Rome IV impacts on clinical characteristics and key pathophysiological factors? *Am J Gastroenterol* 2018;113(7):1017-25.

7. Sperber AD, Bangdiwala SI, Drossman DA, et al. Worldwide prevalence and burden of functional gastrointestinal disorders, results of Rome Foundation Global Study. *Gastroenterology* 2021;160(1):99-114.
8. Oka P, Parr H, Barberio B, et al. Global prevalence of irritable bowel syndrome according to Rome III or IV criteria: a systematic review and meta-analysis. *Lancet Gastroenterol Hepatol* 2020;5(10):908-17.
9. Sperber AD, Dumitrascu D, Fukudo S, et al. The global prevalence of IBS in adults remains elusive due to the heterogeneity of studies: A Rome Foundation working team literature review. *Gut* 2017;66(6):1075-82.
10. Alaqeel MK, Alowaimer NA, Alonezan AF, et al. Prevalence of irritable bowel syndrome and its association with anxiety among medical students at King Saud bin Abdulaziz University for Health Sciences in Riyadh. *Pak J Med Sci* 2017;33(1):33-6.
11. Abd Elraheem N, El-Mawgod M, Mohammed N, et al. Irritable bowel syndrome among medical and non-medical northern border university students, Kingdom of Saudi Arabia: across sectional study. *Open J Gastroenterol* 2016;6(6):188-95.
12. Ibrahim NK, Battarjee WF, Almehmadi SA. Prevalence and predictors of irritable bowel syndrome among medical students and interns in King Abdulaziz University, Jeddah. *Libyan J Med* 2013;8(1):21287.
13. Alhazmi AH. Irritable bowel syndrome in secondary school male students in AlJouf Province, north of Saudi Arabia. *J Pak Med Assoc* 2011;61(11):1111-5.
14. Alharbi SH. Epidemiology of irritable bowel syndrome in Saudi Arabia. *Am J Med Med Sci* 2018;8:7-13.
15. AlAmeel T, Roth LS, Al Sulais E. The prevalence of irritable bowel syndrome among board-certified medical doctors in Saudi Arabia: a cross-sectional study. *J Can Assoc Gastroenterol* 2020;3(6):32-6.
16. AlButaysh OF, AlQuraini AA, Almukhaitah AA, et al. Epidemiology of irritable bowel syndrome and its associated factors in Saudi undergraduate students. *Saudi J Gastroenterol* 2020;26(2):89-93.
17. Hakami RM, Elmakki E, Hasanain T, et al. Irritable bowel syndrome: assessment of prevalence and risk factors in Saudi University students using Rome IV criteria. *Gastroenterol Insights* 2019;1(1).
18. Lovell RM, Ford AC. Global prevalence of and risk factors for irritable bowel syndrome: a meta-analysis. *Clin Gastroenterol Hepatol* 2012;10(7):712-21.
19. Sirri L, Grandi S, Tossani E. Smoking in irritable bowel syndrome: a systematic review. *J Dual Diagn* 2017;13(3):184-200.