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PREVALENCE OF IRRITABLE BOWEL SYNDROME AMONG SAUDI POPULATION IN KINGDOME OF SAUDI ARABIA, ALHASSA (2019)

[1]Fawkia E. Zahran, [2]Zahra'a Al-Youssif, [3]Zainab Alhabeeb, [4]Kawthar Alghurayri, [4]Alhawra'a Al-youssif, [5]Ayman Alhabeeb

[1]Consultant in Internal Medicine Department, King Fahad Hospital, Saudi Arabia, Alhassa. Internal medicine department, Faculty of Medicine for girls, AlAzhar University, Cairo, Egypt

[2]Service Resident, Alomran General Hospital, Saudi Arabia, Alhassa

[3]Family Medicine Resident, Post graduate Center of Family and Community Medicine, Saudi Arabia, Alhassa

[4]Medical Intern, College of Medicine and Surgery in King Faisal University, Saudi Arabia, Alhassa

[4]Medical Intern, College of Medicine and Surgery in King Faisal University, Saudi Arabia, Alhassa

[5]Service Resident, Aljafer General Hospital, Saudi Arabia, Alhassa

Abstract:

Background: *Irritable Bowel Syndrome (IBS) is a chronic intestinal syndrome, which causes abdominal discomfort and changes in bowel habit. Globally the highest prevalence is in South America and the lowest is in South Africa. Exact cause is unknown. Rome III criteria is the tool of diagnosis after excluding organic causes.* ***Objective:*** *The study is designed to determine the prevalence of irritable bowel syndrome amongst people in Alhassa region, Saudi Arabia.* ***Study design:*** *A cross-sectional study* ***Subjects and Methods:*** *Data was collected through electronic survey performed among Saudi population in Alhassa. Statistical analysis was computed using (SPSS).* ***Results:*** *The study comprised 1224 participants, females were the majority 955 (78%), age groups 18 and older. IBS was diagnosed among 438 out of 1224 participants (35.80%). Age group, stress and presence of psychiatric illness was significantly associated with irritable bowel syndrome, while living in the villages, monthly income, and sex has no significant relationship with irritable bowel syndrome.* ***Conclusion:*** *In this study IBS was diagnosed in 438 among 1224 participants (35.80%). The highest prevalence was among the age group from 18 to 30 (38.58%) compared to others. stress and history of psychiatric illness were the main precipitating factors of IBS. Regarding these findings awareness about stress management and psychiatric illness is recommended.*

Keywords: *Irritable bowel syndrome, IBS, prevalence, Alhassa, Saudi Arabia, KSA.*

Corresponding author:

Fawkia E. Zahran,

E mail: fawkiazahran@yahoo.com

Mobile Number: +966595883225

QR code

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INTRODUCTION:

Irritable Bowel Syndrome (IBS) is a chronic intestinal syndrome, which causes abdominal discomfort and changes in bowel habit [1]. As there is no simple test for IBS, it is clinically challenging to diagnose this functional disease [2]. IBS is amongst the commonest functional gastrointestinal disorder that causes abdominal discomfort and pain [3]. Globally, South America has the highest prevalence (21.0%) while South Africa has the lowest (7.0%) and it is greater in women than men [4]. Rome III criteria have described IBS as abdominal pain that improves with defection and the onset of the abdominal ache is related to change in stool frequency or consistency that cannot be explained by any structural or biochemical abnormality [5]. Hurt burn, intermittent dyspepsia difficulty of swallowing, early satiety, and chest pain are some of the most commonly noted symptoms. Patients might also complain of bloating produced as a form of flatulence or belching [6]. The goal of treatment of IBS is to relive symptoms and to elevate the quality of life. Management can be challenging because of the recurrent symptoms and therapy resistance [7]. Management of IBS initially begins by providing psychological support and dietary measure recommendations, secondary by adjunctive pharmacological treatment to relief symptoms [8].

METHOD:

A cross-sectional survey carried out online performed on Saudi citizens who live in Alhassa region in January 2019. A sample of 1224 participants was collected using a self-administered electronic anonymous questionnaire via Google Docs based on Rome III criteria for the diagnosis of IBS. Informed consent was obtained from all the participants through a paragraph written at the begging of the survey. The questionnaire involved 4 sections: demographical data, risk factors of IBS, the third section was specific to IBS including previous diagnosis of IBS and Rome III criteria. The last section was about the 7 red flags which identify the organic causes based on the American Gastroenterological Association. There are dramatic weight reduction, organic bowel disease, gastrointestinal surgical history, hematochezia, severe pain, anemia, high fever or joint pain. Participants with positive red flags were not included in this research.

Data analysis: Data were first entered in Microsoft Excel then transferred to the IBM Statistical Package for the Social Sciences Software version 24 (SPSS) for statistical analysis. Descriptive statistics using frequency to calculate count and percentages were computed, chi-square test used to compute associations among variables.

Results

Demographic features of the study population.

A total of 1224 individuals from Alhassa participated in this study. Five were excluded from the study because they are non-Saudi. Most of the participants were female 955 (78%) while only 269 were male (22%). The highest age group who participated in this study were from 18-30 and it represents 35% of the sample and the lowest age group were ≥ 50 (3.30%). Most of them lives in villages (64.20%) while 35.80% lives in cities, the monthly budget of more than half of the participants (58.70%) were < 5000 SAR and they represent the majority and only 3.40% had a monthly Budget of more than 20000 SAR.

Table 1: Demographical Data

Variable		Number	Percentage
Sex	Female	955	78.00%
	Male	269	22.00%
Age groups	Below 18	270	22.10%
	18- 30	428	35.00%
	31- 40	305	24.90%
	41 - 50	181	14.80%
	Above 50	40	3.30%
Living	Village	784	64.20%
	City	438	35.80%
Monthly income	5000 or less	719	58.70%
	5001 – 10000	188	15.40%
	10001 – 15000	210	17.20%
	15001 – 20000	65	5.30%
	More than 20000	42	3.40%

438 participants were diagnosed with IBS among a total of 1224 based on ROME III criteria and those who were previously diagnosed with IBS by a physician.

Table 2: Age Distribution Among Participants Who Are Diagnosed with IBS

Age group	Number	Percentage
Below 18	31	7.07%
18- 30	169	38.58%
31- 40	153	34.93%
41 - 50	68	15.52%
Above 50	17	3.88%

We found a significant relationship between IBS and age group. Table 2 shows that IBS was more prevalent (38.58%) in the age group '18-30' compared to others, with a P value = .000.

The research showed that the prevalence of IBS was much higher in participants who reported stress (72.37%) in comparison to those who did not (26.48%). This difference is significant based on statistical basis (p=.000).

Significant association was found between IBS and history of psychiatric illness. This study shows that people who are diagnosed with psychiatric illness have much higher prevalence of IBS in relation to those who don't (p=.000).

Living in village or cities has no relationship with IIBS (p=.319).

There was no association between sex and IBS. (75.57%) of female had IBS in comparison to male (24.42%) (p =0.131).

Table 3: IBS in Relation to Demographical Data

Variables		Yes		No	
		Number	%	Number	%
Sex	Female	331	34.70%	624	65.30%
	Male	107	39.80%	162	60.20%
	P. value	0.131			
Age groups	Below 18	31	11.50%	239	88.50%
	18- 30	169	39.50%	259	60.50%
	31- 40	153	50.20%	152	49.80%
	41 - 50	68	37.60%	113	62.40%
	Above 50	17	42.50%	23	57.50%
	P. value	.000			
Living	Village	272	34.70%	512	65.30%
	City	165	37.70%	273	62.30%
	P. value	.319			
Monthly income	5000 or less	232	32.30%	487	67.70%
	5001 – 10000	68	36.20%	120	63.80%
	10001 – 15000	66	31.40%	144	68.60%
	15001 – 20000	18	27.70%	47	72.30%
	More than 20000	10	23.80%	32	76.20%
	P. value	.156			

Table 4: IBS in Relation to Stress and Psychiatric Illness

Variable		Yes		No	
		Number	%	Number	%
Stress	Yes	317	76.60%	97	23.40%
	No	116	56.60%	89	43.40%
	P. value	.000			
Psychiatric illness	Yes	67	90.50%	7	9.50%
	No	323	59.30%	222	40.70%
	P. value	.000			

DISCUSSION:

There are several results and findings that have been obtained from many studies regarding IBS. The global prevalence of IBS is approximately 10-15% [9].

The prevalence of IBS in a systemic review done in 2010 in Asian countries by Chang et al., ranges from 7.0%- 21.9% according to Rome III criteria [10].

IBS prevalence in our research is relatively higher than different studies (35.80%). A research that was done in Alhassa by Alsuwailm et al found that medical students and interns have a high prevalence of IBS 44% [11]. A study by Jafri et al., in Pakistan showed that the prevalence among college students to be 34% [12]. A study was done in Lebanon reported that in accordance with Rome III criteria, the percentage of IBS among the participants proved to be 20.1% [13]. Another study done in Saudi Arabia by Alhazmi, he reported that the prevalence of IBS in male secondary school students in Al-Jouf province was 9.2%. He used Rome II criteria and Manning as diagnostic tools [14].

A systemic review based on 80 studies stated that there was a significant in the prevalence of IBS between male and female. It was higher in female in comparison to male (OR = 1.67); around fifty-five studies among the other studies showed a positive association between female and IBS [15]. A research was done in Riyadh, Saudi Arabia showed a positive association between gender and IBS in which there was a significantly higher IBS prevalence among female [16]. However, in our study there was no relationship between sex and IBS. Maybe those results are owing to the fact that female candidates are much more than male candidates. Many studies found uncertainty in regards to the reasons behind the association between gender and IBS. A study that was done by Naeem, et al. (2012) mentioned several contributing factors that could explain this association including, sociocultural factors, health seeking behavior, higher stress in females and actual biological properties [17]. Other than the previously mentioned factors, estrogen hormone might also affect the regulation of the brain-gut axis [18].

Regarding the age group, the highest of prevalence of IBS in our study was between 18 -30 followed by the age group of 31 - 40 and the lowest was in people above 50. Another study that was carried out in Makkah showed that majority of cases with IBS were younger than 45 years of age [19]. To conclude most studies show that the prevalence drops as the age increases. In a study done in Egypt about the quality of life in primary health care center attendees, they found that psychological stress has a significant relationship with IBS [20]. In another study done in Jeddah, medical students and interns who experienced emotional stress within the last six months have a higher prevalence of IBS 40.1) in comparison to those who didn't (20.1%). In this study, we found a significant relationship between IBS and stress [21].

Limitations

A momentous amount of the participants was female which may affect the accuracy of the final results. In regard to stress assessment it should be assessed based on criteria. Other risk factors should be included in the assessment of the IBS like BMI, food, and tobacco use. This study based on a survey, in future it should be done under a GI specialist supported by physical examination and investigations in order to get more accurate results. Also in future the study should include the types of IBS withier it is a constipation predominant or diarrhea predominant.

CONCLUSION:

In this study IBS was diagnosed in 438 among 1224 Saudi participants living in Alhassa (35.80%) according to ROMEIII criteria. The highest prevalence was among the age group from 18 to 30 (38.58%) compared to others. stress and history of psychiatric illness were the main precipitating factors of IBS. While living in the villages, monthly income, and sex has no significant relationship with IBS. Regarding these findings awareness about stress management and psychiatric illness is recommended.

List of Abbreviations

(IBS) Irritable Bowel Syndrome
(SPSS) Statistical Package for the Social Sciences Software

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