

# False Diagnosis And Risk Factors Of Irritable Bowel Syndrome In AL-Medina AL-Monwra

Hosam salah Aljohani<sup>1\*</sup>, Mohamed Mosaad<sup>2¶</sup>, Kenana Adel Owaidah<sup>3¶</sup>, Sara Yousef Alkeraim<sup>4¶</sup>, sheref Mohamed Eltaher<sup>5¶</sup>

1\* Department of SHO, College Of Medicine , Tibiah University, AL-Medina AL Monwra, Saudi Arabia.

2 Department of medicine, College Of Medicine, Taibah University, AL-Medina AL-Monwra, Saudi Arabia

3 Department of SHO, College Of Medicine , Taibah University, AL-Medina AL-Monwra, Saudi Arabia

4 Department of SHO, College Of Medicine , Taibah University, AL-Medina AL-Monwra, Saudi Arabia

5 Department of family and community, College Of Medicine , Taibah University, AL-Medina AL-Monwra, Saudi Arabia

## Abstract:

**Introduction:** IBS is a one of commonest functional gastrointestinal disorder that causes abdominal pain or discomfort with other symptoms and the exact pathology is not fully understood until now. The prevalence of IBS is ranged between 10-20 % worldwide with both true and false perception. Unfortunately, it has been a commonly encountered disorder at outpatients clinic and has high costs to the patients and healthcare system. However, ROME III criteria are international valid diagnostic tool that uses to diagnosis IBS simply and in an accurate way.

**Aim of the work:** To identify the true and false prevalence of IBS based on ROME III criteria and to identify risk factors for IBS

**Methodology:** A cross-sectional study conducted in AL-Medina AL-Monwra. Self-administrated questionnaire used containing socio-demographic data, risk factors, and ROME III diagnostic criteria

**Result:** The prevalence of IBS was 45.2% among 715 people who shared in this study. False diagnosis of IBS was to the 10.5% where 48% of false perception originated from the physician. IBS was significantly more in young people, female gender, married people and those with positive family history.

**Conclusion:** Both true and false diagnosis of IBS were high prevalence in our community, while the easy and accurate method of ROME criteria to diagnose the true prevalence still not used widely.

**Keyword:** IBS, false diagnosis, prevalence

## 1 INTRODUCTION:

Irritable bowel syndrome (IBS) is one of the commonest gastrointestinal disorders which is manifested by longtime abdominal pain or discomfort and associated with bloating along or with altered bowel habits . The exact cause still obscure and it is thought to be a multifactorial disorder affected by psychological, social, and biological factors. However, IBS could be diagnosed by using different diagnostic criteria and the most method used an internationally is ROME criteria and these methods made prevalence rate is very variable between countries. However, the prevalence of IBS is ranged between 10-20 % worldwide while the prevalence in western countries are ranged from 15 to 20% and mostly affect groups were young adults and female gender 1-2-3. In last decade Rome II criteria was used widely and it depended on having an abdominal pain for 12 not sequent weeks in the past 12 months and two or more of the following: the pain is relieved by defecation, change in frequency, change in the appearance of the stool 1-4. Recently, In 2006 ROME III appeared with some modification in ROME II diagnostic criteria which consider less restrictive as compared with Rome II diagnostic criteria. ROME III which is used in this research, characterized by onset of the symptoms should begin before clinical presentation for at least 6 months and the diagnostic criteria must be fulfilled for the last 3 months rather than 1 year for Rome II criteria<sup>4</sup> . In our community we have a little study about prevalence rate. A study conducted in Prince satam bin Abdulaziz University in Riyadh - Saudi Arabia showed 21% of male medical students between 2013 to 2014 were affected by IBS<sup>5</sup>. IBS can be

classified according to the predominant bowel habit. either diarrhea-predominant IBS (IBS-D), constipation-predominant IBS (IBS-C), remaining one or mixed bowel pattern (IBS-M) with both loosen & harden stools<sup>3</sup>. Because of the great Impact of IBS on the patient's quality of life and a high costs which affect patients and healthcare system there is a rising attention to IBS has also been attributed to its affection on the quality of life<sup>2-4-6</sup>. In a study evaluated the Quality of diarrheal-predominant irritable bowel syndrome patients found that those patients had a significantly diminished health-related quality of life<sup>7</sup>. IBS also affect on work performance and patients with IBS have more absenteeism from work and a study revealed about 66% had at least 1 day absent from work within 6 months due to their IBS. The average absent from work in within 6 months period was 4 days<sup>2</sup>. Patients awareness toward their disease should take place in the management as studies shown the necessity of gaining knowledge toward their disease to properly manage the disease-related complications, not to mention studies revealed many patients with IBS have misconception regarding the nature, and prognosis of the disease . so , intensive educational programs must be considered for these patients<sup>8</sup> . As we know there is no study about the true and false diagnosis of irritable bowel syndrome (IBS) in AL-Medina AL-Monwra so In this study our aimed to identify the prevalence of IBS and identify risk factor for IBS . Our goal to show the problem to community and provide data that could be used by authority to discover causes behind this problem and solve it.

## 2 OBJECTIVES:

To identify the true and false prevalence of IBS based on ROME III, and to identify risk factor for IBS

## 3 SUBJECTS AND METHODS:

A cross-sectional study conducted in AL-Medina AL-Monwra in KSA and data was collected by using a self-administered questionnaire divided into three main domains: demographic and risk factor (nine questions), believe and attitude (two questions ) and diagnosis of IBS ( four questions) according to Rome III diagnostic criteria<sup>3</sup>. Inclusion criteria were all adult people who have 18 years old or more and accept to share in this survey. Exclusion criteria were patients with known confirmed GIT diseases which may resemble IBS as IBD, malignancy, and infections etc. The sample size was calculated by [www.openepi.com](http://www.openepi.com). Gathered data was processed by using Statistical Package of Social Sciences version 22. All participants have the rights to withdraw from the study at any time. Participants' confidentiality was assured. The data was analyzed and the result was used for the scientific presentation and publication in a scientific peer-reviewed journal.

## 4 RESULT:

A total of 715 adult responders were included in our study, where the prevalence of IBS is 45.2%, while the false prevalence is 10.5% where 48% of false perception originated from physician as shown in table (1) and table (2); they also showed that 29.4 % of diseased people they do not know that they have IBS and 19.1% of normal people think that they have IBS. The result showed that in diseased people, 93% of false perception originated from non-physician source, while in 48% of false perception in normal people originated from the physician. In table (3), the result shows that 18- 30 is the most commonly affected age and disease decrease with age and that was statistically significant. Females are more affected than males (70.9% versus 29.1). However, this was not statistically significant as most of our subjects were females. Other significant risk factors were found in students 37%, married people (58.2%), those with positive family history (53.3%), and those who are nervous (77.1%). Regarding the anthropometric measurement, table 4 shows that shorter adults (Mean  $\pm$ SD 159.96  $\pm$  12.49) and those with overweight (Mean  $\pm$ SD 27.06 $\pm$ 13.75) are significantly more affected.

## 5 DISCUSSION:

we conducted a cross-sectional study in AL-Medina AL-Monwra in KSA. Our data were collected by using a self-administered questionnaire divided into three main domains: demographic and risk factor (nine

questions), believe, attitude (two questions) and diagnosis of IBS according to Rome 3 diagnostic criteria (four questions). Prevalence of IBS is very different between countries and depend on diagnostic criteria. A community survey of 41 984 individuals in eight countries in Europe was performed showed the prevalence rate for the patients with recent diagnosis of IBS ranged from 12% in Italy to about 6% in the Netherlands in the UK while in another study range prevalence rate from 3.5% in Iran to 30% in Nigeria[9]. our study the prevalence rate was 45.2% among 715 people. we expected this big variation because firstly, we use different diagnostic criteria which is ROME III criteria and secondly most responds in our data was female .this big variation was reported in the previous study conducted in Finland on 3631 used different criteria that found prevalence rate in Manning 9.7 to 16.2 , while in ROME I 5.5 and ROME II 5.1 . in another study in Singapore conducted on 2276 used different criteria in its study founded that prevalence rate in Manning 11, ROME I 10.4 and ROME II 8.6 . also in the USA, study conducted on 643 used different criteria that found prevalence rate in ROME I 6.8 and ROME II 4.7. while In Canada conducted on 1149 used different criteria found prevalence rate in ROME I 13.5 and ROME II 13.1[3]. our aim in this study to measure false believes that either overestimated or underestimated of the prevalence of IBS. Unfortunately, we found 29.4% of patients with IBS have false belief that they are normal and 19.1% of normal people have a false belief that they are diseased and to estimate this false believe we asked then: do you believe that you have IBS? then we diagnosed them by ROME III diagnostic criteria . in a recent study said that Using diagnostic tools to facilitate IBS diagnosis is a valid and accurate way for making a diagnosis of IBS in health care[10]. Unfortunately, we found that 6.3% of false perception originated from physician source in IBS patients compared with 48% % of false perception originated from physician source in normal population may be because doctors not well trained to diagnose IBS or they are recent graduated as showed in Saudi study that 35.5% of the physicians with masters degrees use "Rome or Manning criteria" to facilitate IBS diagnosis, whereas only 14.3% of the residents (physicians with MBBS) use these tools to facilitate IBS diagnosis[10]. As we expect we found in our data that 93.7% of false perception originated from non-physician source in IBS patients compared with 52% of false perception originated from non-physician source in a normal population. Consultation is an important behavior to the determinant of the prevalence of formal diagnosis. 33-90% of patients with IBS do not seek medical attention, and that a proportion of who seeking medical attention and meeting IBS criteria are not labeled as having IBS by their doctors. Although the prevalence of IBS across Europe and USA are similar with an exception in Italy that has highest prevalence rate. However, the rate of informal diagnosis in IBS shows a wider variation, with the majority being informally diagnosis in all countries with a little exception in some countries [3]. Most data on prevalence and health care seeking behavior are from community-based samples, indicating that health care seeking behavior is greater in this population and not just in the group of IBS patients with severe or longstanding symptoms. in Europe study, they found 37% of patient not seen by the physician while in another study 50-90% of those experiencing symptoms not consult their general practitioner (GP)[3]. In our study, we found that only 6.3% of patient with false believe seeking medical attention and 48% of normal with false believe seeking medical attention. we suspect behind not seeking medical attention because no education program as we know about this disease and also false behavior of asking the help and diagnosis from non-physician. in published study showed main cause of not seeking medical attention cited were about 70% of patient said it is mild symptoms and not serious and about 17% of patients said I have a lot of work and no time to seeking medical attention[9].41.8% of our data showed that most commonly affected age was 21 - 30 years and decrease with aging . this was similar to another study which the most affected age was between 17 -35 years[9]. IBS affects 10-30% of the population in Western countries and females are more prone to get this disease, wherein about 70% of the IBS individuals in the United States and Europe are females. Also in another study showed the prevalence of IBS in 41 984 respondents were 7.1% were males compared with 12% were females[9]. Another study demonstrates a community prevalence of disease of 10.5%; male compromise 6.6% and female 14.0%[2]. Our study showed that 77.4% of diseased are female while of 22.6% of diseased are male. in a published study showed that Employment work less than 20 hours are riskier twice to develop IBS 6.8 % while in Unemployed was 3.1% [2]. In our study, we found employed in non-military 34.1% compared with a military job which was 3.1%. Study showed that 68.2% who are not smoke with IBS compared 72.6% normal who are not smoke while 4.8% Heavy smoker have IBS compared

3% of Heavy smokers were normal [2]. we found in our study smoking is a not risk factor and maybe this different because of different genetic or different culture and more important the high female subjects. We have some limitation of our study .First, we use ROME III as diagnostic criteria compared with other studies that used different diagnostic criteria (Mannie , Rome I and Rome II criteria) which leading to give different prevalence rate[3]. Second limitations to our study was the high female: male ratio of respondents (approximately 3:1). However, we have to Teach and encourage physician to use international recommended diagnostic criteria that make diagnosis easier and we have to initiate educative program that encourages people to seek medical help from physician.

## 6 CONCLUSION:

In our community, Irritable bowel syndrome considers the obsession that affects many people who suffer from gastrointestinal symptoms in spite of the plenty of information available nowadays. IBS is high prevalence in our community, young age, female gender, a married person and positive family history are the risk factors, while the prevalence of false perception is originated from physician and non-physician sources.

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Table (1): Comparison between study group perception of Diagnosis of IBS and diagnosis by Rome criteria:

		Diseased (n=323)		Normal (n=392)		p-value
		No.	%	No.	%	
Do you have IBS?	No (n=412)	95	29.4%	317	80.9%	<0.001*
	Yes (n=303)	228	70.6%	75	19.1%	

Statistically significant test \*

Table (2): distribution of false perception cases regarding source of perception:

		Diseased (n=95)		Normal (n=75)		p-value
		No.	%	No.	%	
Source of perception	Physician	6	6.3%	36	48%	<0.001*
	Not-physician	89	93.7%	39	52%	
p-value		<0.001*		0.3		

Statistically significant test \*

Table (3): Comparison between IBS cases and Non-IBS regarding Demographic data:

		Diseased		Normal		p-value
		No.	%	No.	%	
Age	<21	41	12.7%	82	20.9%	<0.001*
	21-30	135	41.8%	177	45.2%	
	31-40	84	26.0%	56	14.3%	
	41-50	47	14.6%	47	12.0%	
	51-60	14	4.3%	26	6.6%	
	61-above	2	0.6%	4	1.0%	
Sex	Female	250	77.4%	278	70.9%	0.051

	Male	73	22.6%	114	29.1%	
Marital status	Married	188	58.2%	174	44.4%	<0.001*
	Single	135	41.8%	218	55.6%	
Occupation	Military job	10	3.1%	13	3.3%	0.005*
	Non-military job	110	34.1%	109	27.8%	
	Student	120	37.2%	196	50.0%	
	Unemployed	83	25.7%	74	18.9%	
Smoking	No	281	87.0%	342	87.2%	0.92
	Yes	42	13.0%	50	12.8%	
FH	No	172	53.3%	279	71.2%	<0.001*
	Yes	151	46.7%	113	28.8%	
Nervous	No	74	22.9%	205	52.3%	<0.001*
	Yes	249	77.1%	187	47.7%	
Other GIT symptoms	No	115	35.6%	294	75.0%	<0.001*
	Yes	208	64.4%	98	25.0%	

Statistically significant test \*

Table (4): Comparison between IBS cases and Non-IBS regarding weight, height & BMI:

		N	Mean	Std. Deviation	p-value
Weight	Diseased	323	67.18	17.66	0.12
	Normal	392	65.20	17.04	
Height	Diseased	323	159.96	12.49	0.03*
	Normal	392	161.84	9.93	
BMI	Diseased	323	27.06	13.75	0.004*
	Normal	392	24.83	5.67	

Statistically significant test \*