

Original Article

Prevalence of functional gastrointestinal disorders in a study population: A Questionnaire Study

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ABSTRACT:

Background: Functional gastrointestinal disorders (FGID) are a group of disorders of the digestive system in which the chronic or recurrent symptoms cannot be explained by the presence of structural or tissue abnormality. This study aimed at recording the prevalence of functional gastrointestinal disorders among study population. **Materials & Methods:** This study was conducted on 4245 subjects and 815 subjects fulfilled the ROME criteria and came under FGIDs. It included 500 females and 315 males. It was a questionnaire study. The three questions were related to FGIDs. The first question was related to epigastralgia/epigastric discomfort in the past three months, related to bowel habit change or not. The second question focused more on recurrent abdominal pain/abdominal discomfort related to change of defecation frequency or stool consistency. The third question was for functional abdominal pain, which continued for the last 3 months with some loss of daily functioning. Subjects were finally categorized as having functional GI disorder based on Rome III criteria. **Results:** Unspecified functional bowel disorder was equally (52) seen in males and females. Functional dyspepsia was seen in 55 males and 72 females. Maximum females (80) complained of Functional abdominal pain syndrome where as males (56) complained of functional diarrhea. Functional constipation was seen less in males (27) than females (65). **Conclusion:** Author concluded that functional gastrointestinal disorders are commonly seen in females and in married person. However large scale studies are required to substantiate the results obtained in this study. **Key words:** Functional gastrointestinal disorders, recurrent, unspecified bowel syndrome

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INTRODUCTION

Functional gastrointestinal disorders (FGID) are a group of disorders of the digestive system in which the chronic or recurrent symptoms cannot be explained by the presence of structural or tissue abnormality.¹ Functional dyspepsia (FD) and irritable bowel syndrome (IBS) are among the most widely recognized FGIDs. It is characteristic of the FGIDs that each entity has no specific objective findings, and that they overlap with each other. Therefore, these entities are syndromes, and their diagnosis and

treatment are similar. Diagnosis of FGIDs is based on patients' self-reported symptoms.²

Dyspeptic symptoms occur with organic diseases such as reflux esophagitis, gastroduodenal ulcer, and cancer. Whereas dyspepsia without organic disease is more prevalent in patients who seek medical care. The frequency of dyspepsia reported by El-Serag et al³ was 10-40%. However, this frequency was 5-12% when concurrent symptoms including heartburn were excluded. The diagnosis of FGIDs are based on Rome criteria⁴. Rome I criteria were derived from expert clinical consensus in 1991 and used as a reliable

diagnostic standard for FGID. The Rome criteria was revised in 1999 to be more simple and practical to use. The Rome II criteria were mostly different from Rome I with regards to the duration of symptoms required for diagnosis. Rome III criteria changed the required duration of symptoms from the “last 12 months” to the “past six months.”

In the Rome II definition published in 1999, reflux symptoms were excluded from the definition of FD, and when IBS symptoms were present, FD was diagnosed as IBS. Therefore, whether heartburn or IBS is included easily affects the prevalence of FD.

This study aimed at recording the prevalence of functional gastrointestinal disorders among study population.

MATERIALS & METHODS

This study was conducted on 4245 subjects and 815 subjects fulfilled the ROME criteria and came under FGIDs. It included 500 females and 315 males. This was a questionnaire study which included multiple questions regarding name, age, sex, etc. Subjects were asked to reply the questionnaire. The three questions were related to FGIDs. The first question was related to epigastralgia/epigastric discomfort in the past three months, related to bowel habit change or not. The second question focused more on recurrent abdominal pain/abdominal discomfort related to change of defecation frequency or stool consistency. Subjects that met the criteria of irritable bowel syndrome (IBS) recorded their major symptoms, such as hard stools, loose stools, strains, urgency, or abdominal distension. The third question was for functional abdominal pain, which continued for the

last 3 months with some loss of daily functioning. The functional gastrointestinal disorders identified by the questionnaire included functional dyspepsia, irritable bowel syndrome, functional abdominal bloating, functional constipation, functional diarrhea, and functional abdominal pain. The response to each question included yes/quite often or rarely/not at all. Subjects were finally categorized as having functional GI disorder based on Rome III criteria. Results were tabulated and analyzed using chi square test for correct inference.

RESULTS

Table I shows that out of 815 patients, 315 were males and 500 were females. The difference was statistical significant (P=0.04). Table II shows that 70% subjects were married, 20% were single and 10% were divorced. 45% subjects had education upto college level, 40% high school level and 15% unknown. 60% were in job, 30% had no job while 10% were unemployed. Table III shows distribution of patients in different FGIDs. There was significant difference in males and females regarding distribution of various FGIDs. Unspecified functional bowel disorder was equally (52) seen in males and females. Functional dyspepsia was seen in 55 males and 72 females. Maximum females (80) complained of Functional abdominal pain syndrome where as males (56) complained of functional diarrhea. Functional constipation was seen less in males (27) than females (65). Our study revealed 19.19% of prevalence whereas Thompson et al in his study revealed 61.70%, Boyce et al 36.1% and Change et al 26.20%. The difference was statistical significant (P=0.01).

TABLE I: Distribution of patients

TOTAL- 815			
GENDER	MALE	FEMALE	P VALUE
NUMBER	315	500	0.04

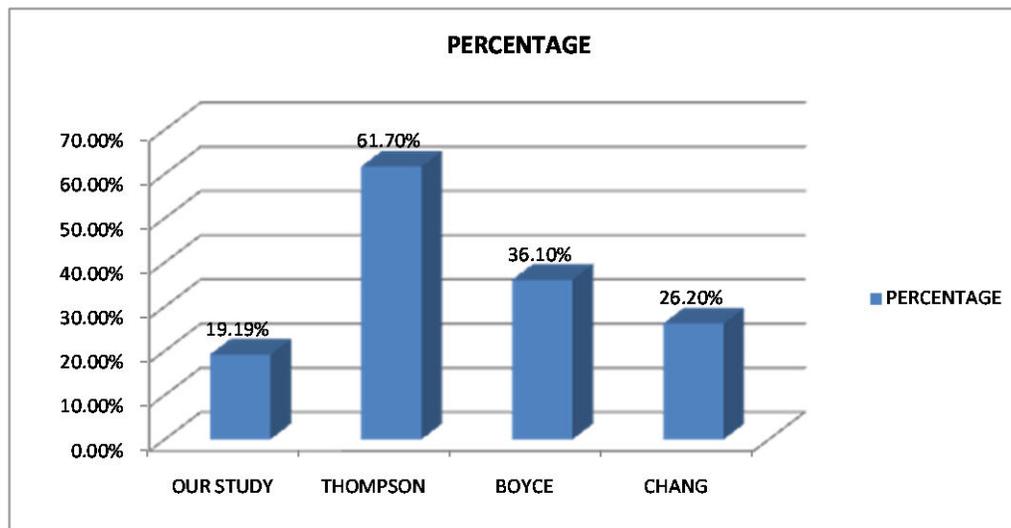
TABLE II: Demographic data of subjects

Marital Status	Number	Percentage
Single	163	20%
Married	570	70%
Divorced	82	10%
Education		
High School	326	40%
College	366	45%
Unknown	123	15%
Employment		
Job	480	60%
No Job	244	30%
Unemployed	82	10%

TABLE III: Distribution of patients based on rome iii classification

FGIDs	MALE	FEMALE	P VALUE
Functional dyspepsia	55	72	0.02
Functional abdominal bloating	45	68	0.03
Irritable bowel syndrome	43	79	0.01
Functional constipation	27	65	0.01
Unspecified functional bowel disorder	52	52	1
Functional abdominal pain syndrome	37	84	0.04
Functional diarrhea	56	80	0.01
TOTAL	315	500	

GRAPH I: Comparison of the population-based studies of FGID



DISCUSSION

It is well-known that FGIDs represent the most prevalent condition in patients who come to medical institutions with abdominal symptoms. Determining the etiology of these patients is important to establish the treatment strategy in the primary care setting. Although the definitions of FGIDs can easily change their prevalence, there is no doubt that we often see FGID patients in

the outpatient clinic.⁵ If we do not care for these patients appropriately, physicians and staff cannot establish good relationships with them, and patients will continue with doctor shopping. Regardless of the definition of FGID, physicians should explain the condition and ensure that patients have a satisfactory understanding of the condition.⁶

In present study, we examined 4245 subjects and found 815 positive of FGIDs. It included 315 were males and 500 were females. We saw subjects of functional dyspepsia, functional abdominal bloating, irritable bowel syndrome, functional constipation, unspecified functional bowel disorder, functional

abdominal pain syndrome and functional diarrhea. Most common finding was functional diarrhea followed by functional abdominal bloating both in males and females.

According to Rome III criteria, 19.19% of our study samples found positive of FGID. This is considerably lower than that reported by Thompson et al⁷ who found that 61.70% of their sample met the Rome II criteria for having at least one FGID in Canada, and Boyce et al⁸ who found that 36.1% met the criteria in Australia. The less prevalence in our study may be due to involvement of only functional dyspepsia, functional abdominal bloating, irritable bowel syndrome, functional constipation, unspecified functional bowel disorder, functional abdominal pain syndrome and functional diarrhea. Some other disorders, such as functional esophageal disorders, functional gallbladder and sphincter of Oddi disorders (E), and functional anorectal disorders.⁹

We also evaluated the education level, marital status and employment level of subjects. Among the risk

factors noted for FGID, married status had a significantly higher ratio in the FGID group. This risk factor had only been discussed in a Korea study for irritable bowel syndrome. In their study, single/divorced status had less risk for IBS comparing with married subjects in their study. Our study reveals similar results. Subjects who were in job showed higher prevalences. Similar results were seen in study by Chang CC.¹⁰

CONCLUSION

Author concluded that functional gastrointestinal disorders are commonly seen in females and in married person. However large scale studies are required to substantiate the results obtained in this study.

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