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RESEARCH ARTICLE

PREVALENCE AND CHARACTERISTIC OF PATIENTS WITH FUNCTIONAL DYSPEPSIA IN ADEN, YEMEN 2023-2024

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Abstract

Functional dyspepsia (FD) is one of the most common gastrointestinal disorders and imposes social and economic burden worldwide and was defined by the absence of peptic ulcer disease on investigation. The Room criteria have been the most widely used criteria for defining dyspepsia and have divided functional dyspepsia into postprandial distress syndrome (PDS), characterized by postprandial fullness and early satiation, and epigastric pain syndrome (EPS), characterized by epigastric pain or burning. This study is aimed to identify the prevalence and characteristics of patients with functional dyspepsia. This study was considered a descriptive cross-sectional study, was performed in the period between Aug 2023 and Jan2024. A total of 105 patients were conducted at Gastroenterology private clinic diagnosed as functional dyspepsia based on endoscopic findings and questionnaires with Rome III criteria and rapid ureas test for Helicobacter pylori infection. The mean (± SD) age was 38.77(±15.03) years, and 55 patients (52.4%) were female with majority (48.6%) of occupation were house wife. 47 (44.8 %) of resident patients were from Lahj and (30.5%) patients were secondary school educational level. Anxiety, Depression, stress life and emotional events were with 26(24.8 %) patients and 63(60%),37(35.2) were with Kat chewing and NASIDs intake risk factor respectively. The proportion of H. pylori seropositive was 47 patients (44.8 %) and most common upper endoscopic findings 36 (34.3%) were with mild scattered gastritis. Majority of patients 84 (80%) met the criteria of FD subtypes overlapping EPS/PDS. The prevalence was higher in-house wife female sex and overlapping subtype was quite common FD. H. pylori positive infection, Kat chewing, psychological and NASIDs intake presumed risk factors.

Keywords: Functional dyspepsia, Prevalence, Patient's characteristic.

Introduction:

Functional dyspepsia is a clinical syndrome characterized by chronic, recurrent upper abdominal pain or discomfort in the absence of organic lesions explaining the gastrointestinal presentation [1]. This disorder is not a mono symptomatic entity; several predominant symptoms may be present including epigastric pain, abdominal fullness, bloating, vomiting, belching, early satiety, nausea, and heartburn. These predominant symptoms change over time, making functional dyspepsia difficult to define and classify [2]. Dyspepsia affects up to 30% of the general population in the United States, Canada, and the United Kingdom, with 70% of these patients having functional dyspepsia [3]. The causes of functional dyspepsia are multi factorial [4]. Helicobacter pylori infection and acid secretion may play a role because H. pylori eradication and acid suppression improve symptoms of dyspepsia [5]. Abnormal gastric or duodenal motility and impaired gastric myoelectrical activity are present in 70% to 80% of patients with functional dyspepsia accompanied by postprandial pain or discomfort [6]. Other studies implicate immune activation, with increased T cells, eosinophilia, and mast cells found in the bowel wall of patients with functional dyspepsia and irritable bowel syndrome [7] There is also an association with mental health disorders, because rates of anxiety and depression are higher for patients with functional dyspepsia than for patients with dyspepsia from an organic cause or for healthy individuals[8].There has been an increased prevalence of dyspepsia in women, smokers, NSAIDs users, and among H. pylori positive people [9] due to their chronic remitting-relapsing progress, they have a great impact on

an individual's general state of well-being aside from their specific GI complaints [10]. Patients with dyspepsia generate substantial health care costs, with abnormal health care seeking behavior and considerable anxiety affecting their quality of life [11]. Two major subtypes of FD are recognized: PDS), with postprandial fullness or early satiation, and EPS, with epigastric pain and/or burning [12]. The population prevalence of functional dyspepsia is quite variable across the globe, with overall high numbers (10–40%) in Western countries and low numbers (5–30%) in Asia, independent of the respective functional dyspepsia definitions [13]. That the prevalence of functional dyspepsia is higher among women than men is well established [14] Known and presumed risk factors for developing functional dyspepsia are gastrointestinal infections and traveler's diarrhea [15], antibiotic use [16], intake of NSAIDs, childhood abuse, early environmental microbial exposure [17] and other early life factors smoking. overweight and obesity [18] and perceived stress as well as psychosocial states [19]. However, a study showed that gastric physiological disturbances did not correlate with symptoms and delayed gastric emptying presented to a similar extent in PDS, EPS and overlapping groups [20]. Meal ingestion substantially modulates symptoms [21] and genetic factors could also have a role. H. pylori-related dyspepsia is considered a separate entity. However, other prior gastrointestinal infections have been described as triggers of functional dyspepsia, by impairing gastric accommodation (a vagally mediated reflex that occurs post prandially and results in a reduction of smooth muscle tone; the stomach relaxes and provides a reservoir for the meal), possibly via immune mechanisms [22].Communication between the central nervous system and the enteric nervous system has been recognized for over a century, but the fact that brain–gut communications are bi-directional has only been appreciated more recently .Innervation of the gastrointestinal tract regulates secretions, sphincter control, motility, blood flow and enteroendocrine function, and the enteric nervous system also communicates with the intestinal barrier via neuroendocrine and mucosal immune cells [23].

Materials and Methods:

Study area and period

This descriptive cross-sectional study was carried out among dyspeptic patients at Private Gastroenterology Clinic in Aden, Yemen, from Aug 2023 to Jan2024.

Study population

The study population consisted of all patients who had complained from symptoms consistent with dyspepsia paraclinical evidence of FD by upper endoscopy attended to the Gastroenterology department of the clinicl after fulfilling the exclusion criteria.

Sample size

The study was conducted on 105 dyspeptic patients who attended the Gastroenterology department of the clinic during the study period. The dyspeptic study patients were divided into subtypes groups referring to Room III criteria.

- PDS
- EPS
- Overlapping

Inclusion and exclusion criteria

All Patients who attended to Gastroenterology department of the private clinic, Aden aged older than 18 years old and with upper abdominal symptoms consistent with Room III criteria for diagnosis of FD. patients with peptic ulcer disease, reflux esophagitis and malignancy of the stomach or esophagus were excluded from the study.

Data collection

The data was collected using a questionnaire designed for this study included socio- demographic, clinical, and paraclinical variables as well as detailed history, physical examination, and medical records.

History was taken from the patients after obtaining informed consent, including basic demographics, comorbid diseases, risk factors (diabetes mellitus "D.M.", arterial hypertension "AHT", Psychological factors,), drug history intake mainly NASIDS and special habits (Smoking, Khat chewing, Shama and Shisha). Physical examination was done, including body mass index "BMI" measurement and the abdominal examination. Rome III criteria as the reference standard used to define the presence of true FD.

Procedures:

Upper endoscopic examination was conducted by the consultant gastroenterologist using flexible submergible endoscope, as follows:

- Patient was eight hours fasting before examination.
- The equipment was disinfected by standard methods.
- Application of local pharyngeal anesthesia with 10% xylocaine.
- Upper gastro-endoscopy was performed for the evaluation of esophageal, gastric and duodenal changes. By passing a flexible endoscope through the mouth into the esophagus, stomach, bulb, and second duodenum.

- Intravenous conscious sedation was given to most patients in this study to ease the anxiety and discomfort of the procedure using Diazepam 5 mg intravenously.
- During the upper GI endoscopic examination, gastric biopsies were obtained from all patients and added to a urea solution containing phenol red. If H. pylori is present, the urease enzyme splits the urea to release ammonia which raises the pH of the solution and causes a rapid color change. This is called Campylobacter Like Organism (CLO) test, it is associated with sensitivity of 85% - 95% and specificity of 95% - 100% [24].

Statistical analysis

Data processing was performed by the computer software program of the statistical package for social sciences (SPSS) version 20. Categorical variables were expressed as frequencies (numbers and percentage) and continues variables as mean ± standard deviation. The Chi-square test was used to evaluate potential association between categorical variables. Odds ratios (OR)with 95 % confidence interval (CI) were provided. P-value <0.05 considered to indicate the level of significance in the study.

Ethical consideration:

For ethical purpose, the study was conducted after the permission and approval from department of internal medicine, the department of postgraduate studies in the faculty of medicine university of Aden, also the approval of the ethical committee in the faculty of medicine. Permission was obtained from the general director of private Gastroenterology clinic. Our patients were participating in this study freely. Informed consent from patients was obtained orally. The patient has the right to withdrawal from the study without undue influences or coercion. Full explanation to the patients about this study and its benefit was applied. This research is for the benefit of community to improve general health of the population and to decrease morbidity and great impact on an individual's general state of well-being, help to improve quality of life and decrease significant economic burden that put-on health care system.

Result:

A total of 105 participants who answered the questionnaire comprising of the Rome III criteria were included with age ranges from 18 to 72 years with a mean of 38.77(±15.03) years among them 55 (52.4) were females.

Table 1: Socio-demographic characteristics of the studied patients with FD.

	Mean	
Age/Years	38.8±15	
	NO. of patients	Percent (%)
Sex		
Male	50	47.6
Female	55	52.4
Occupation		
House wife	51	48.6
Government employee	4	3.8
Military	8	7.6
Private job	7	6.7
Private work	24	22.9
Student	5	4.8
Not working	6	5.7
Residency		
Aden	21	20
Lahj	47	44.8
aldhalea	21	20
Abyan	9	8.6
Shabwa	2	1.8
Hadramoot	1	1
Taiz	3	2.8
Albedha	1	1
Marital status		
Single	14	13.3
Married	79	75.2
Divorce	1	0.1
Widow	11	10.5
Educational level		
Illiterate	29	27.6
Primary school	27	25.7
Secondary school	32	30.5
University	17	16.2

This study includes (105) patients with functional dyspepsia. the Age of studied patients ranges from 18 to 72 years with a mean of 38.8(±15) years. There was slightly Higher percentage of female more than male (52.4% vs 47.6% respectively). The majority of the studied patients 51 (48.6%) were house wife, with most of studied patients 79 (75.2%) were married. For residency most of studied patients were from Lahj 47 (44.7%) and studied patients with secondary school had higher education level 32(30.5%) while with university level had lowest prevalence 17(16.2%). (Table 1).

Table 2: Lifestyle habits distribution of studied patients with FD

Social habits parameters	NO. of patients	Percent (%)	*P*- value
Smoking	19	18.1	0.018*
Khat Chewing	63	60	<0.001**
Shama	11	10.5	1.000
Shisha	6	5.7	0.04*

The table showed that, statistically significant (p-value< 0.001**) with higher prevalence 63 (60%) among khat chewing studied patients followed by smoking and shisha ,19 (18.1%) with p value 0.018* and 6 (5.7%) with p-value 0.04* respectively.

Table 3: Risk factors Among studied patients with FD

Variables	NO. of patients	Percent (%)	*P*- value
Arterial Hypertension	19	18.1	0.137
Diabetes Mellitus	6	5.7	0.265
Dyslipidemia	7	6.7	0.109
NSAIDs	37	35.2	0.026*
Psychological factors (Anxiety, Depression and emotion events)	26	24.8	<0.001**
H.pylori infection	47	44.8	0.04*

The distribution of the risk factors illustrates the high statistically significant p-value <0.001** of psychological factors (Anxiety, Depression, stress life and emotional events) among 26 (24.8%) studied patients followed by statistically significant p-value 0.026* for NSAIDs among 37(35.2%) studied patients, also statistically significant p-value 0.04* for H. Pylori infection among 47 (44.8%) studied patient.

Table 4: Clinical presentation for studied patients with FD met criteria for Room III

Variables	No. of patients	%
Postprandial fullness	77	73.3
Early satiation	52	49.5
Epigastric pain	82	78.1
Epigastric burning	80	76.2

Regarding symptoms presentation of the FD disease, the table revealed that, patients with isolated epigastric pain comprised the largest group 82(78.1%) followed by isolated epigastric burning 80(76.2%) and isolated postprandial fullness 77(73.3%).

Table 5: Functional dyspepsia subtypes distribution among studied patients

FD subtypes	No. of patients	%
EPS	19	18.1
PDS	2	1.9
Overlap (EPS/PDS)	84	80

The table showed that, 19 (18.1%) of studied patient were with EPS and 2(1.9%) were with PDS subtype. Higher percentage 84(80%) were among studied patients with overlap (EPS/PDS)

Discussion:

Functional dyspepsia is the prototype functional gastrointestinal disorder. This study highlights the prevalence and characteristic of FD as a clinical problem in a population of patients from Yemen. The mean age of our studied patients was 38.8±15 years near to that reported (39.1±13.6) by [26] and that reported in Egypt (40.6914.28 years) by [27]. The higher rate reported in Jaban (54.3±14.9 years) and Korea (51.5±12.7 years) by [28] and [29] respectively. It might be attributed to the higher sample size in his study. Our analysis demonstrated the prevalence of 52.4% in females rather higher in compared to males 47.6%. However, the pattern is similar (53.5%) to what had been reported in Korea by the same author Sung EK et al.,2018 but less similar with result observed in Belgium by [30] who showed significant higher proportion of female 73%. over male and [31] who stated less prevalence (41.9) of FD among female patients. In a meta-analysis conducted by [32], the pooled prevalence of uninvestigated dyspepsia was significantly higher in women. It is believed that females tend to be more affected in their daily life compared to males reported that upper gastrointestinal symptoms have been linked to greater impairment in the well-being of women [32], this can be justified by the difference in sex hormone and hormonal changes [33]. Some fields of jobs and a rural area are modifiable risk factors for FD. In our study, house wife was more likely to be patients with FD than other professions. Some fields of jobs and living in a rural area are also modifiable risk factors for FD in our study, high rate of prevalence was with house wife 48.6%, slight higher in percentage (50.4%) reported by [31] who stated that, FD was higher among home economic. The prominent marital status among our participants was married patients (75.2%) compared to the other marital status. This was confirmed by the results of a similar Canadian study where noted that, prevalence (55%) of FD was more common among married patients [34].

Most of patients participate in this study attained secondary school level of education (30.5%), with higher in percentage (46,6%) found by [29] study and who also

consistent with our reported the mean of BMI (25.3±5.3 kg/m^2). By contrast, a population study in Malaysia reported that higher levels of education were independent risk factors for dyspepsia [35].

Khat chewing in current study were 63(60%) patients and found to be highly statistically significant (<0.001**), this finding is in harmony with previous study [37] among Ethiopian patients, concluded that, the prevalence of gastrointestinal disorder higher among khat chewer and consider as important predisposing factor. Smoking was shown to be an independent predictor of PDS+EPS, but not PDS alone or EPS alone, might affect all gastrointestinal functions including those of the esophagus, stomach, and colon, resulting in susceptibility to several kinds of functional intestinal disorder including FD, and irritable bowel syndrome. [37] However, in our study smoking cigarette reported statistical significant (0.018*). Several studies have reported similar relationships between smoking and FD. H. pylori, psychological factors and NASIDs are more prominent risk factors respectively revealed among our studied patients. *H. pylori* is considered to affect the pathogenesis of FD. Several epidemiologic studies reported that *H. pylori* infection rates in FD patients were higher than in matched control participants, and a meta-analysis also presented that, OR for *H. pylori* infection in non-ulcer dyspepsia was 1.6 (95% CI, 1.4–1.8) [38]. In our observational descriptive study were high percentage (44.8%) of H. pylori found among studied patients. Individuals with FD appear to experience a greater number of life-events and most common psychiatric co-morbidities in patients with functional dyspepsia are anxiety, depressive and somatoform disorders [39], this was consistent with our current study where highly statistically significant result found with psychological variable in relation to FD (P<0.001**). NSAIDs are important in causing both (non-ulcer) dyspepsia and ulcers, often silent and presenting with a complication. [40] Use of NSAIDs was the frequent risk factor among our patients with FD (35.2%) in compare to psychological and non-communicable disease risk factor. lower than our result found in similar research study done in Korea by [29] and in British by [42] where they considered NASIDs as independents risk factor for FD among 13.6% and 4% respectively. In the present study we used upper symptoms questionnaire concordant with Room III criteria were more of studied patients present with epigastric pain followed by epigastric (78.1%) burning (76.2%) and postprandial fullness (73.3%). The Rome III criteria were more stringent than the symptom questionnaire and may have influenced the difference of FD prevalence rates, that recorded by [29], [28] recorded different percentage among his studied patients were 61.3% of them with epigastric pain , 54.1% with burning sensation and 46.8%) with postprandial fullness and early satiation.

In our study, the overlapping EPS/PDS 84 (80%) was the predominant form of FD subtypes. The majority of studied patients suffers from subscribed disease symptoms EPS and PDS. This high prevalent of overlapping subtype (50%)attributed to pathogenic mechanism in study research reported by [43]. similar result (51%) found by [30].

Limitations of the Study

Our study done in low income country did not have sufficient data regarding FD prevalence before. The sample size was relatively samall and may not be representative This study also was a single-center designed study and further comparative multicenter studies will be needed.

Conclusion

Our study concluded that the prevalence was higher in-house wife 51(48.6%) female sex55(52.4%) and overlapping subtype84(80%) was quite common FD. H. pylori positive infection, Kat chewing, psychological and NASIDs intake presumed risk factors. Moreover, there are many risk factors, including modifiable ones, such as severe stress, abnormal BMI, and non-modifiable ones such as advanced age,chronic diseases.

Conflict of Interest

The author declares that he has no competing interests.

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Reference:

[1] A. D. Sperber, S. I. Bangdiwala, D. A. Drossman, et al., “Worldwide prevalence and burden of functional gastrointestinal disorders: Results of Rome Foundation Global Study,” *Gastroenterology*, vol. 160, pp. 99–114, 2021.

[2] B. E. Lacy, K. T. Weiser, A. T. Kennedy, et al., “Functional dyspepsia: The economic impact to patients,” *Aliment. Pharmacol. Ther.*, vol. 38, pp. 170–177, 2013.

[3] I. Aziz, O. S. Palsson, H. Törnblom, et al., “Epidemiology, clinical characteristics, and associations for symptom-based Rome IV functional dyspepsia in adults in the USA, Canada, and the UK: A cross-sectional population-based study,” *Lancet Gastroenterol. Hepatol.*, vol. 3, no. 4, pp. 252–262, 2018.

[4] M. M. Rahman, U. C. Ghoshal, S. Sultana, et al., "Long-term gastrointestinal consequences are frequent following sporadic acute infectious diarrhea in a tropical country: A prospective cohort study," *Am. J. Gastroenterol.*, vol. 113, no. 9, pp. 1363–1375, 2018.

[5] P. Moayyedi, B. E. Lacy, C. N. Andrews, et al., "ACG and CAG clinical guideline: Management of dyspepsia," *Am. J. Gastroenterol.*, vol. 112, no. 7, pp. 988–1013, 2017.

[6] W. Sha, P. J. Pasricha, and J. D. Chen, "Correlations among electrogastrogram, gastric dysmotility, and duodenal dysmotility in patients with functional dyspepsia," *J. Clin. Gastroenterol.*, vol. 43, no. 8, pp. 716–722, 2009.

[7] G. B. Biomed, G. Carroll, A. Mathe, et al., "Evidence for local and systemic immune activation in functional dyspepsia and the irritable bowel syndrome: A systematic review," *Am. J. Gastroenterol.*, vol. 114, no. 3, pp. 429–436, 2019.

[8] L. Du, B. Chen, J. J. Kim, et al., "Micro-inflammation in functional dyspepsia: A systematic review and meta-analysis," *Neurogastroenterol. Motil.*, vol. 30, no. 4, p. e13304, Apr. 2018.

[9] P. Henningsen, T. Zimmermann, and H. Sattel, "Medically unexplained physical symptoms, anxiety, and depression: A meta-analytic review," *Psychosom. Med.*, vol. 65, no. 4, pp. 528–533, 2003.

[10] H. I. Mohamed, H. A. Mokarib, Z. M. Saad, et al., "The prevalence of functional dyspepsia using Rome III questionnaire among chronic hepatitis C patients," *BMC Gastroenterol.*, vol. 16, pp. 2–5, 2016.

[11] N. J. Talley, "Functional gastrointestinal disorders as a public health problem," *Neurogastroenterol. Motil.*, vol. 20, Suppl. 1, pp. 121–129, 2008.

[12] B. Ayele and E. Molla, "Dyspepsia and associated risk factors at Yirga Cheffe Primary Hospital, Southern Ethiopia," *Clin. Microbiol.*, vol. 6, p. 3, 2017.

[13] M. von Wulffen, N. J. Talley, J. Hammer, et al., "Overlap of irritable bowel syndrome and functional dyspepsia in the clinical setting: Prevalence and risk factors," *Dig. Dis. Sci.*, vol. 64, pp. 480–486, 2019.

[14] S. Mahadeva and A. C. Ford, "Clinical and epidemiological differences in functional dyspepsia between the east and the west," *Neurogastroenterol. Motil.*, vol. 28, pp. 167–174, 2016.

[15] K. Napthali, N. Koloski, M. M. Walker, and N. J. Talley, "Women and functional dyspepsia," *Women's Health (Lond.)*, vol. 12, pp. 241–250, 2016.

[16] B. L. Pike, C. K. Porter, T. J. Sorrell, and M. S. Riddle, "Acute gastroenteritis and the risk of functional dyspepsia: A systematic review and meta-analysis," *Am. J. Gastroenterol.*, vol. 108, pp. 1558–1563, 2013.

[17] H. Paula, et al., "Non-enteric infections, antibiotic use, and risk of development of functional gastrointestinal disorders," *Neurogastroenterol. Motil.*, vol. 27, pp. 1580–1586, 2015.

[18] N. A. Koloski, et al., "Identification of early environmental risk factors for irritable bowel syndrome and dyspepsia," *Neurogastroenterol. Motil.*, vol. 27, pp. 1317–1325, 2015.

[19] J. G. Jung, et al., "Visceral adiposity is associated with an increased risk of functional dyspepsia," *J. Gastroenterol. Hepatol.*, vol. 31, pp. 567–574, 2016.

[20] U. Deding, C. Torp-Pedersen, and H. Boggild, "Perceived stress as a risk factor for dyspepsia: A register-based cohort study," *Eur. J. Gastroenterol. Hepatol.*, vol. 29, pp. 560–567, 2017.

[21] H. Vanheel, et al., "Pathophysiological abnormalities in functional dyspepsia subgroups according to the Rome III criteria," *Am. J. Gastroenterol.*, vol. 112, pp. 132–140, 2017.

[22] R. Bisschops, et al., "Relationship between symptoms and ingestion of a meal in functional dyspepsia," *Gut*, vol. 57, pp. 1495–1503, 2008.

[23] S. Kindt, A. Tertychnyy, G. de Hertogh, G. Geboes, and J. Tack, "Intestinal immune activation in presumed post-infectious functional dyspepsia," *Neurogastroenterol. Motil.*, vol. 21, pp. 832–e856, 2009.

[24] N. Powell, M. Walker, and N. J. Talley, "The mucosal immune system: Master regulator of bidirectional gut-brain communications," *Nat. Rev. Gastroenterol. Hepatol.*, vol. 14, pp. 143–159, 2017.

[25] C. W. Huh and B.-W. Kim, "Diagnosis of Helicobacter pylori infection," *Korean J. Gastroenterol.*, vol. 72, no. 5, pp. 229–236, 2018.

[26] S. A. Mirbagheri, N. Khajavirad, N. Rakhshani, M. R. Ostovaneh, S. M. E. Hoseini, and V. Hoseini, "Impact of Helicobacter pylori infection and microscopic duodenal histopathological changes on clinical symptoms of patients with functional dyspepsia," *Dig. Dis. Sci.*, vol. 57, no. 4, pp. 967–972, 2012.

[27] M. Mohamed, L. A. El-H, H. I. Hanaa, and M. A. T. Mohamed, “The prevalence of clinically significant endoscopic findings in outpatients with dyspepsia,” *Med. J. Cairo Univ.*, vol. 87, pp. 201–208, 2019.

[28] S. Aono, T. Tomita, K. Tozawa, et al., “Epidemiology and clinical characteristics based on the Rome III and IV criteria of Japanese patients with functional dyspepsia,” *J. Clin. Med.*, vol. 11, no. 9, p. 2342, May 2022.

[29] S. E. Kim, N. Kim, J. Y. Lee, K. S. Park, J. Shin, K. Nam, H. J. Kim, and H. J. Song, “Prevalence and risk factors of functional dyspepsia in health check-up population: A nationwide multicenter prospective study,” *J. Neurogastroenterol. Motil.*, vol. 24, no. 4, pp. 603–613, Oct. 2018.

[30] F. Carbone, L. Holvoet, and J. Tack, "Rome III functional dyspepsia subdivision in PDS and EPS: Recognizing postprandial symptoms reduces overlap," *Neurogastroenterol. Motil.*, vol. 27, pp. 1069–1074, 2015.

[31] A. Y. Arnaout, T. J. Alhejazi, Y. Nerabani, O. Hamdan, K. Arnaout, I. Arnaout, *et al.*, "The prevalence and risk factors of functional dyspepsia among adults in low- and middle-income countries," *Medicine*, vol. 102, no. 40, 2023.

[32] A. C. Ford, A. Marwaha, R. Sood, and P. Moayyedi, "Global prevalence of, and risk factors for, uninvestigated dyspepsia: A meta-analysis," *Gut*, vol. 64, no. 7, pp. 1049–1057, Jul. 2015.

[33] F. L. Frank, L. Kleinman, D. Ganoczy, K. McQuaid, S. Sloan, A. Eggleston, *et al.*, "Upper gastrointestinal symptoms in North America: Prevalence and relationship to healthcare utilization and quality of life," *Dig. Dis. Sci.*, vol. 45, no. 4, pp. 809–818, 2000.

[34] B. Hellström and U. M. Anderberg, "Pain perception across the menstrual cycle phases in women with chronic pain," *Percept. Mot. Skills*, vol. 96, pp. 201–211, 2003.

[35] I. Aziz, O. S. Palsson, H. Törnblom, A. D. Sperber, W. E. Whitehead, and M. Simrén, "Epidemiology, clinical characteristics, and associations for symptom-based Rome IV functional dyspepsia in adults in the USA, Canada, and the UK: A cross-sectional population-based study," *Lancet Gastroenterol. Hepatol.*, vol. 3, pp. 252–262, 2018.

[36] S. Mahadeva, H. Yadav, S. Rampal, and K. L. Goh, "Risk factors associated with dyspepsia in a rural Asian population and its impact on quality of life," *Am. J. Gastroenterol.*, vol. 105, pp. 904–912, 2010.

[37] T. Nigussie, T. Gobena, and A. Mossie, "Association between Khat chewing and gastrointestinal disorders: A cross-sectional study," *Afr. Health Sci.*, vol. 23, no. 2, pp. 123–130, 2013.

[38] S. C. Nwokediuko, U. Ijoma, and O. Obienu, "Functional dyspepsia: Subtypes, risk factors, and overlap with irritable bowel syndrome in a population of African patients," *Afr. J. Med. Sci.*, vol. 56, pp. 1–5, 2012.

[39] L. R. Jaakkimainen, E. Boyle, and F. Tudiver, "Is Helicobacter pylori associated with non-ulcer dyspepsia and will eradication improve symptoms? A meta-analysis," *BMJ*, vol. 319, pp. 1040–1044, 1999.

[40] N. Talley, N. Powell, M. Marjorie, M. Mike, *et al.*, "Role of smoking in functional dyspepsia and irritable bowel syndrome: Three random population-based studies," *Aliment. Pharmacol. Ther.*, vol. 54, no. 1, pp. 32–42, Jul. 2021.

[41] G. Magni, F. di Mario, G. Bernasconi, and G. Mastropaolo, "DSM-III diagnoses associated with dyspepsia of unknown cause," *Am. J. Psychiatry*, vol. 144, pp. 1222–1223, 1987.

[42] A. Kumar, J. Patel, and P. Sawant, "Epidemiology of functional dyspepsia," *J. Assoc. Physicians India (JAPI)*, vol. 60, p. 102:40, 2012.

[43] Y. Fujiwara and T. Arakawa, "Overlap in patients with dyspepsia/functional dyspepsia," *J. Neurogastroenterol. Motil.*, vol. 20, no. 4, pp. 447–457, 2014.

مقالة بحثية

انتشار وخصائص المرضى الذين يعانون من عسر الهضم الوظيفي في عدن، اليمن 2023-2024

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المُلخّص

عسر الهضم الوظيفي هو أحد أكثر اضطرابات الجهاز الهضمي شيوعاً ويفرض عبئاً إجتماعياً وإقتصادياً في جميع أنحاء العالم، وقد تم تعريفه بغياب مرض القرحة الهضمية عند التحقيق. كانت معايير روم هي المعايير الاكثر استخداماً على نطاق واسع لتحديد عسر الهضم وقسمت عسر الهضم الوظيفي إلى متلازمة الضائقة بعد الاكل والتي تتميز بالإمتلاء بعد الأكل والشبع المبكر ومتلازمة الألم الشرسوفي والتي تتميز بألم أو حرقة في المنطقة الشرسوفية. الهدف من هذه الدراسة هو تحديد انتشار وخصائص المرضى الذين يعانون من عسر الهضم الوظيفي. اعتبرت هذه الدراسة دراسة مقطعية وصفية وأجريت في الفترة بين أغسطس 2023 ويناير2024. تم إجراء ما مجموعه105 مريضاً في عيادة خاصة لأمراض الجهاز الهضمي تم تشخيصهم على أنهم يعانون من عسر الهضم الوظيفي بناءً على النتائج التنظيرية والإستبيانات بمعايير روما الثالثة واختبار اليوريا السريع لعدوى هيليكوباكتر بيلوري. كان متوسط العمر (±الانحراف المعياري) 38.77 (±15.03) سنة وكان 55 (52.4%) مريضاً من الإناث مع غالبية (48.6%) من المهن ربات البيوت. كان 47 (44.8%) من المرضى المقيمين من لحج وكان (30.5%) من المرضى بمستوى تعليمي ثانوي. كان القلق والاكتئاب والتوتر والاحداث العاطفية لدى 26 (24.8%) من المرضى و 63 (60%) و 37 (35.2%) مع مضغ القات وعامل خطر تناول مضادات الالتهاب غير الستيروئيدية على التوالي كانت نسبة المصل الإيجابي للجرثومة الحلزونية البوابية 47 (44.8%) مريضاً وكانت اكثر النتائج التنظيرية العلوية شيوعاً 36 (34.3%) مصابة بإلتهاب معدة خفيف مبعثر. أستوفت غالبية المرضى 84 (80%) معايير الأنواع الفرعية من عسر الهضم الوظيفي المتداخلة مع الاستنتاج كان معدل الانتشار أعلى بين الإناث في المنزل وكان النوع الفرعي المتداخل شائعاً جداً في عسر الهضم الوظيفي وكانت عدوى جرثومة المعدة إيجابية المصل، ومضغ القات، والعوامل النفسية وتناول مضادات الالتهاب غير الستيروئيدية عوامل خطر مفترضة.

الكلمات المفتاحية: عسر الهضم الوظيفي، معدل الإنتشار، خصائص المريض.

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