PREVALENCE AND RISK FACTORS OF IRRITABLE BOWEL SYNDROME AMONG GENERAL SECONDARY SCHOOL TEACHERS
By

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Abstract

Introduction: Irritable bowel syndrome (IBS) is a chronic functional gastrointestinal (GI) disorder causing frequent distress in affected patients as well as affects the quality of life. The syndrome may affect patients' abilities, productivity and the educational outcomes at various levels. **Aim of Work:** to determine the prevalence of IBS among a selected sample of general secondary school teachers and to find out the determinants associated with this disorder. **Materials and Methods:** A cross-sectional study was conducted during the period from October 2020 to March 2021 among a randomly selected sample of teachers. All participants were subjected to a pre-designed confidential self-administered questionnaire including Rome III diagnostic criteria for diagnosis of IBS. The psychiatric state of the studied participants, the Arabic version of Taylor Manifest Anxiety Scale (TMA) and Beck Depression Inventory (BDI) scale were used. **Results:** The study showed that the prevalence of IBS was 19.4% among teachers versus 7.4% among controls. Regarding awareness of IBS and misconception were 46.4% and 30.6% among teachers compared to the control participants (25.2% and 29.7%; respectively). Regarding psychometric tests, the results showed that IBS teachers had statistically significantly poorer status in comparison with non IBS ones including emotional stress was reported among 55.1% vs. 34.0%, depression 67.3% vs. 42.9, anxiety 65.3% vs. 44.8%, and mixed-status (depression and anxiety) 42.9% vs. 26.1% . Logistic regression performed to ascertain the effects of certain studied risk factors on the likelihood that participants have IBS and it was statistically significant p<0.001. **Conclusion and Recommendations:** IBS was more prevalent among teachers. Screening of all teachers for IBS and analysis of the work environment to stand on all factors of this disorder are suggested. Providing psychological and emotional support along with stress management is highly recommended

Keywords: Anxiety, Depression, Irritable bowel syndrome, Teachers and Stress-related disorders

Introduction

Teaching is commonly recognized as one of the most stressful occupations that ranks only behind air traffic controllers and physicians in stress intensity (Khalifa et al., 2022). Stress is a psychological risk factor that is strongly associated with irritable bowel syndrome (IBS) cases including all types of stress, whether physical, psychosocial, or psychological stresses, can influence IBS symptoms (Fond et al., 2014; Al-Shahrani, 2020).

Irritable bowel syndrome (IBS) is one of the most common functional gastrointestinal disorders that characterized by recurrent, chronic abdominal pain or discomfort associated with disturbance in bowel habit without underlying organic lesions. Also, structural and biochemical abnormalities are absent (Brandt et al., 2009; Arishi et al., 2021). Difficulty of objective diagnostic findings by endoscopy, laboratory, or radiological studies to identify IBS has restricted its diagnosis to the use of subjective medical history (Elbadawi et al., 2016 ; Alshammari et al., 2018). The main etiopathogenesis of IBS is not fully understood. A combination of different risk factors including genetic predisposition, altered gut-brain inter-

actions, visceral hypersensitivity, mucosal inflammation, and bowel microbial alternation may have contributed to IBS development (Ibrahim et al., 2016; Agyapong et al., 2022).

IBS affects almost 23% of the population worldwide; mostly females. The burden of medical cost regarding this disorder on healthcare systems is major. In addition, decreased work productivity, a significant impairment of health-related quality of life due to frequent distress in affected patients and many of them underwent unnecessary surgeries such as appendesectomy and other intestinal operations due to difficulty in diagnosis in some atypical cases (Brandt et al., 2009; Elhosseiny et al., 2019)

According to Rome III, three types of IBS have been recognized; (1) diarrhea-predominant (IBS-D), (2) constipation-predominant (IBS-C), and (3) IBS with mixed bowel habits (IBS-M) alternating diarrhea and constipation (El-Serag et al., 2004; Elbadawi et al., 2016). IBS and each of its subtypes (IBS-D, IBSC and IBS-M) are associated with increased anxiety and depressive symptoms levels (Fond et al., 2014).

Previous   studies   were   done   to

estimate the prevalence of IBS among medical students and health care workers in Egypt (Abdulmajeed et al., 2011; Darweesh et al., 2015; Elhosseiny et al., 2019; Kasemy et al., 2020)patients with IBS seem to be seriously affected in their everyday life. The study was designed to explore the pattern of IBS in clinical practice and the impact on the quality of life. This is a case control descriptive study. 117 individuals were included in this study. Rome II criteria were used for the diagnosis of IBS. Impact of IBS on patient's quality of life was determined by irritable bowel syndrome quality of life (IBS-QOL. To our knowledge, there is lack of studies that had been carried out on the prevalence of IBS among teachers in Egypt. This is the initiative which motivates us to propose this study.

Aim of Work

To determine the prevalence of IBS among a randomly selected sample of secondary school teachers and to find out the determinants associated with this disorder.

Materials and Methods

Study design: It is an analytical cross-sectional study

Place and duration of the study: The study was carried out among the five general secondary schools (El Masaie, Abdel Moneim Riyad, Mubarak , New and Old general secondary school for girls) at a randomly chosen district (Shebin El-Kom), out of ten districts at Menoufia governorate, Egypt during the period from October 2020 to March 2021.

Study sample: Sample size was calculated using Open-epi software for epidemiological statistics, assuming hypothesized percentage of IBS in the population 40.7% (Khalifa et al., 2022). The sample size had been calculated at 80% power and 0.05 level of significance to be 427 participants. The sample size was increased to 450 participants to compensate for drop out. Participants were classified into two groups; Group I included secondary school teachers, and Group II included age and sex matched controls working in administrative jobs from the same schools. Group I was subdivided into two groups; Group Ia included teachers suffering from IBS, and Group Ib included teachers without IBS.

Inclusion and exclusion criteria: Full time consenting Egyptian general secondary school teachers working at the fore mentioned city were considered

eligible to participate in the current study. The exclusion criteria included any history of past or current suffering from systemic conditions affecting bowel habits like Type II diabetes mellitus, hyperthyroidism or multiple sclerosis, any psychological illnesses.

Study methods: All participants were subjected to:

1) **A self-administrated questionnaire** was distributed among the five selected general secondary school teachers. The adopted questionnaire consists of three subsections:

I. **Baseline characteristics** including: a) Demographic characteristics including age, sex, residence, marital status, socioeconomic standards (SES), smoking, comorbidities, drug abuse, medication use, exposure to traumatic events and food allergy. b) Occupational history including the years of experience and working hours. c) Family history of IBS, routine daily style and dietary habits including practicing regular physical exercise, sleeping hours, smoking status, chewing process and drinking fluid with meals.

II. **Psychometric tests** including

The Arabic version of Taylor Manifest Anxiety Scale (TMA) and Beck Depression Inventory (BDI) scale were used to assess the psychiatric state of the studied participants. Assessment of psychiatric state condition categorizes the participants into normal with a TMA score <16 and BDI score < 10, depression with BDI scores ≥ 10, anxiety with TMA scores ≥ 16 and mixed if both anxiety and depression criteria existed, simultaneously (Richter et al., 1998; Aly et al., 2017).

III. **Rome III criteria** have been used to identify IBS among the studied participants without warning red flags. These criteria included recurrent abdominal pain or discomfort in the last three months for at least three days per a month associated with two or more of the following: (1) Improvement with defecation; and or (2) Onset associated with a change in the frequency of stool; and or (3) Onset associated with a change in the form or appearance of stool (Ford et al., 2013).

Consent

An informed consent was taken in which each participant has been informed of all aspects of the study and have the right to give up when

he/she wanted. Data were handled anonymously to maintain the confidentiality of the participants.

Ethical Approval

The current study was approved by Institutional Review Boards (IRB) of the Menoufia Faculty of Medicine, Menoufia University. The current study was conducted according to the Declaration of Helsinki 1946. The aim of the research was explained to all study participants.

Data Management

Statistical analysis was performed using Statistical Package for Social Sciences (SPSS) version 28 (SPSS Inc., Chicago, IL, USA). Data analysis involved descriptive statistics and inferential statistical techniques. Descriptive statistics was expressed in: Number (No), percentage (%) mean ($\bar{x}$) and standard deviation (SD). Analytic statistics included non-paired t-test that was used for quantitative data. Chi-square test ($\chi2$) was used to study association between qualitative variables. Odds ratio (OR) was used to assess risk of exposure. Regression analysis was used to detect the predictors of the likelihood of developing IBS. P value of < 0.05 was considered statistically significant.

Results

The current study was carried out enrolling 427 participants with an overall response rate of 94.8%. Group 1 included 252 teachers while Group II included 175 controls.

Table (1): Socio-demographic data of the studied participants:

	Studied groups				χ^2 test	p value
	Group I (No=252)		Group II (No =175)			
	No.	%	No.	%		
Age (years): Mean ±SD Range	39.95±9.61		41.06±7.19		t-test = 1.30	0.195
	29– 48		31– 53			
Sex: Male Female	104 148	41.3 58.7	81 94	46.3 53.7	1.06	0.303
Residence: Urban Rural	117 135	46.4 53.6	78 97	44.6 55.4	0.14	0.705
Marital status: Unmarried Married	69 183	27.4 72.6	44 131	25.2 74.8	0.27	0.606
BMI (kg/m²): Normal Overweight Obese	158 55 39	62.7 21.8 15.5	131 26 18	74.9 14.8 10.3	6.98	**0.031***
Comorbidities: Yes NO	77 175	30.6 69.4	41 134	23.4 76.6	2.62	0.105
Medication use: Yes NO	91 161	36.1 63.9	52 123	29.7 70.3	1.62	0.203
Food allergy: Yes NO	31 221	12.3 87.7	18 157	10.3 89.7	0.24	0.625
Family history of IBS: Yes NO	48 204	19.0 81.0	22 153	12.6 87.4	2.71	0.114

*: Statistically significant

Table (1) showed that the range of participants' age were between 29 and 53 years with no significant variations between the studied groups (P = 0.195). Female participants were higher than the male among both studied groups; more participants lived in rural areas and married participants constituted more than two times the unmarried participants. No significant differences were reported between both groups regarding comorbidities, food allergy and family history of IBS (p > 0.05). Significant more participants from Group II showed normal BMI (74.9%) versus only 62.7% of Group I. Overweight and obese participants were more frequent among Group I (p = 0.031).
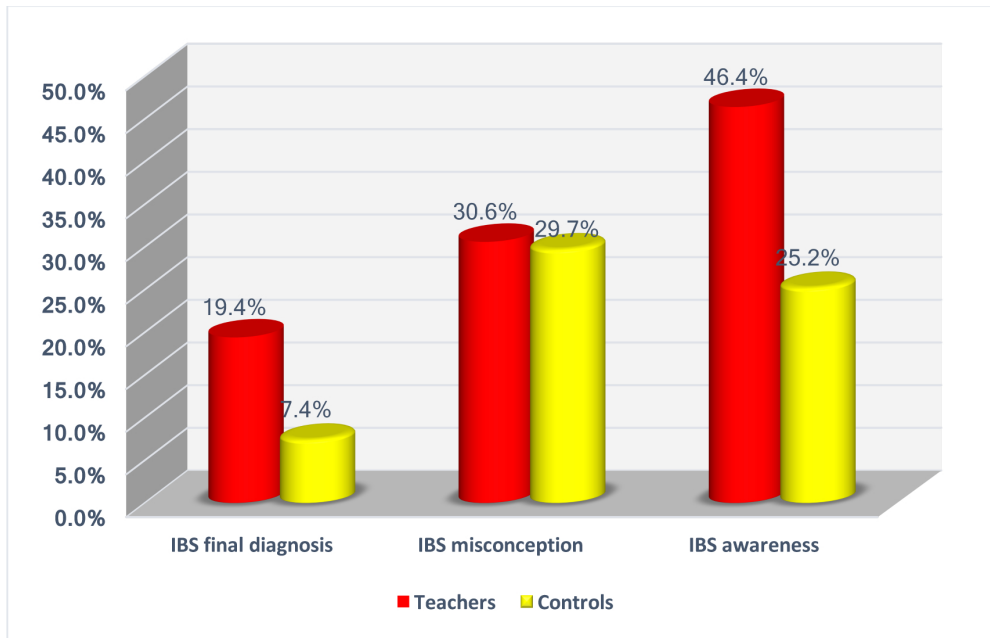

Fig 1: Distribution of the studied groups regarding final diagnosis, misconception, and awareness of irritable bowel syndrome.

Figure (1) showed that the prevalence of IBS was 19.4% among Group I versus 7.4% among Group II. Regarding awareness of IBS, 46.4% of Group I reported awareness versus 25.2% among Group II. Misconception of IBS was reported among 30.6% of Group I versus 29.7% of Group II.

Table (2): Distribution of the studied teachers regarding their general characteristics:

	Group I				χ2 test	p value	OR (CI 95%)
	Group Ia with IBS (No =49)		Group Ib without IBS (No =203)				
	No.	%	No.	%			
Age (years): Mean ±SD Range	40.82±6.35 32– 48		37.94±5.77 29– 43		t =3.07	**0.002***	-
Sex: Male Female	11 38	10.6 25.7	93 110	89.4 74.3	7.95	**0.004***	2.92 (1.41–6.03)
BMI (kg/m²): Normal Overweight Obese	16 21 12	10.1 38.2 30.8	142 34 27	89.9 61.8 69.2	24.28	**< 0.001***	1.0 3.48 (2.59–8.27) 11.61)–1.68)5.94
Comorbidities: Yes NO	21 28	27.3 16.0	56 147	72.7 84.0	3.65	0.066	1.97 (1.03–3.75)
Medication use: Yes NO	23 26	25.3 16.1	68 135	74.7 83.9	2.54	0.112	1.76(0.93–3.30)
Food allergy: Yes NO	10 39	32.2 17.6	21 182	67.7 82.4	2.83	0.092	2.22(0.97–5.09)
Family history of IBS Yes NO	19 30	39.6 14.7	29 174	60.4 85.3	15.35	**< 0.001***	3.80 (1.89–7.62)
Years of experience: Mean ±SD Range	10.54±4.11 20–8		8.68±3.29 5– 17		3.37	**0.002***	-
Working hours: Mean ±SD Range	8.95±2.33 12–5		6.81±1.72 5– 10		7.26	**< 0.001***	-

*: Statistically significant   OR: Odds Ratio   CI: Confidence Interval   BMI: Body Mass Index

Table (2) compared teachers suffered IBS and those who were not. It showed that IBS teachers had higher age (40.82±6.35 years), more years of experience (10.54±4.11) and more working hours (8.95±2.33) in comparison with teachers not diagnosed with IBS (p < 0.05). Also IBS was statistically significantly higher among females and among those with positive family history of IBS (p = 0.004 and <0.001, respectively). Normal BMI was reported in 89.9% of those not diagnosed with IBS compared to only 10.1% of patients with IBS (p < 0.001). Non-significant variations were noticed between those suffering of IBS and those who were not regarding comorbidities, medication use, and food allergy (p >0.05).

Table (3): Distribution of lifestyle characteristics and psychometric tests among the studied teachers:

	Group I				χ^2 test	p value	OR (CI 95%)
	Group Ia with IBS (No=49)		Group Ib without IBS (No =203)				
	No.	%	No.	%			
Lifestyle characteristics							
Regular physical exercise:							
Practice	7	9.9	64	90.1	5.80	**0.016***	0.36 (0.15 –0.85)
Not-practice	42	23.2	139	76.8			
Sleeping hours:							
< 8 h/day	28	22.4	97	77.6	1.38	0.239	1.46 (0.78 –2.73)
>8h/ day	21	16.5	106	83.5			
Smoking:							
Smoker	6	28.6	15	71.4	1.22	0.269	1.75 (0.64 –4.77)
Non- smoker	43	18.6	188	81.4			
Having breakfast:							
Always	15	18.1	68	81.9			Reference
Sometimes	21	20.2	83	79.8	0.15	0.927	0.87 (0.42 –1.82)
Rarely	13	20.0	52	80.0			0.88 (0.39 –2.02)
Chewing process:							
Eating slowly	10	24.4	31	75.6			Reference
Normal	24	18.2	108	81.8	0.79	0.665	1.45 (0.63 –3.63)
Eating fast	15	19.0	64	81.0			1.38 (0.56 –3.41)
Drink fluid with meal:							
Yes	26	22.8	89	71.2	1.35	0.244	1.35 (0.81 –2.23)
NO	23	16.8	114	83.2			
Psychometric tests #							
Emotional stress (+ve)	27	55.1	69	34.0	7.46	**0.006***	2.38 (1.27 –4.49)
Anxiety (+ve)	32	65.3	91	44.8	6.63	**0.011***	2.32 (1.21 –4.44)
Depression (+ve)	33	67.3	87	42.9	9.49	**0.002***	2.75 (1.42 –5.31)
Mixed (+ve)	21	42.9	53	26.1	5.34	**0.022***	2.12 (1.11 –4.05)

*: Statistically significant   #: % from columns   OR: Odds Ratio
CI: Confidence Interval   BMI: Body Mass Index

Table (3) showed that 90.1% of teachers who practice physical activity were not suffering from IBS (p = 0.016). No significant variations were reported comparing teachers diagnosed with IBS with those who were not in terms of sleeping hours, having breakfast, smoking status, chewing process and drinking fluid with meals. Regarding psychometric tests, the results showed that Group Ia had statistically significant poorer status in comparison to Group Ib, where emotional stress was reported among 55.1% vs. 34.0%, depression among 67.3% vs. 42.9, anxiety among 65.3% vs. 44.8%, for Group Ia and Ib, respectively. Moreover, mixed- depression and anxiety were reported among 42.9% of the teachers with IBS compared to 26.1% of teachers not diagnosed with IBS (p <0.05).

Table (4): Binary logistic regression for predictors of irritable bowel syndrome.

Variables	p value	OR	95% CI	
			Upper	Lower
Emotional stress (Yes)	**<0.001***	5.24	2.01	13.69
Sex (Female)	**0.004***	1.94	0.74	4.81
Depression (Yes)	**0.030***	3.25	1.09	9.68
Family history (Positive)	**0.034***	2.53	0.86	7.39
Traumatic events (Yes)	**0.035***	1.36	1.07	2.91
Working hours	**0.042***	1.73	1.02	4.19
Physical activity (NO)	0.180	0.37	0.19	0.75
Anxiety (Yes)	0.760	0.82	0.23	2.90

*: Statistically significant   OR: Odds Ratio   CI: Confidence Interval

Table (4) illustrated the effects of sex, high emotional stress, anxiety, depression, working hour, traumatic events and performing physical activities on the likelihood that participants have IBS. The model was statistically significant at p<0.001. Teachers suffering from emotional stress or depression were five and three times, respectively more likely to exhibit IBS. Female teachers, those with positive family history of IBS, those experiencing traumatic events and teachers working more hours showed significantly more likelihood to develop IBS (p< 0.05).

Discussion

Irritable bowel syndrome (IBS) is a disabling functional illness that affect gastrointestinal tract. IBS is characterized by alteration of bowel habits associated with abdominal pain (Fond et al., 2014). The current study aimed to assess the prevalence and determinants of IBS among Egyptian secondary school teachers and to assess the relation between IBS and emotional disturbances in this vulnerable sector of population.

IBS was more prevalent among secondary school studied teachers (19.4%) compared to controls (7.4%) (Fig 1) which agreed with Chirila et al., 2012 from Romania; who reported IBS prevalence to be 19.1%. A much less IBS prevalence of 6.1% was reported among teachers of public schools in Saudi Arabia (Elbadawi et al., 2016). Nevertheless, higher prevalence was mentioned when 40.7% of teachers working also in Saudi Arabia reported symptoms highly suggestive for IBS (AlKhalifah et al., 2016)Kingdom of Saudi Arabia (KSA. A prevalence of 35.5% was reported among teachers living in another area in Saudi Arabia (Amin et al., 2021).

It is noteworthy that several studies reported diverse prevalence in different contexts. Kasemy et al., 2020 reported that 14.4% of Egyptian health care workers suffered from IBS. Globally, prevalence of IBS between western population ranged between 15% and 24% which agreed with the current study (Qureshi et al., 2016). Prevalence variations are attributed to the variations in the career, location and IBS diagnostic criteria. Nonetheless, all these studies reported significantly more IBS among experimental groups compared to controls.

The current study reported that between 29% and 30% of the studied population have misconception about IBS, and about 26% - 46% were aware about IBS (Fig 1). These findings raise serious issues about the literacy of an important group of Egyptian population with IBS. Another study conducted earlier in Egypt revealed that between 17% and 32% had misconception about IBS while percentages between 23% and 73% were aware about IBS (Kasemy et al., 2020). This discrepancy was attributed to the difference in the study population, as the aforementioned study was carried out among Egyptian health care workers.

There was a significant finding by

comparing studied teachers suffering from IBS and teachers who were not. Teachers of higher age, females, those worked for more years and working more hours and those with positive family history of IBS were more vulnerable to develop IBS (Table 2). Predominance of female affection with IBS was in accordance with previous studies. Male: female ratio of 1:1.38 had been reported by Ledergerber et al., 2021 from Swizerland in their study on abdominal pain in patients with inflammatory bowel disease . Similarly, Egyptian female medical students reported higher proportion of action with IBS compared to male students (Elhosseiny et al., 2019).

The significant affection of female is attributed to the increased emotional stress and anxiety among females, particularly during hormonal surges and drop, besides the burden put on the females inside and outside homes. In the contrary ; a study done in Saudi Arabia by AlButaysh et al., 2020 , stated that there was no gender variations in affection with IBS .

Studied teachers aged 32–48 years were more vulnerable to IBS compared to younger teachers (Table 2). Similarly, teachers between 30-39 were considered more vulnerable to IBS according to the study done by Elbadawi et al., 2016 on the prevalence and associated risk factors of irritable bowel syndrome among teachers in public schools, Tabuk City, Saudi Arabia.

Gwee et al., 2004 in their study on the prevalence, symptom characteristics, and impact of irritable bowel syndrome in an asian urban community; reported higher prevalence of IBS in ages less than 50 years. Association between IBS and the period of middle age is attributed to the work-related stress and anxiety which reach its peaks during middle age. Opposite to the current results, Ibrahim et al. 2016, in their study on the prevalence and risk factors of irritable bowel syndrome among medical students; mentioned that the age is not among the factors affecting prevalence of IBS.

Positive family history of IBS was a significant predictor of IBS among the studied group (Table 2), which was agreed with other studies as Sadeghian et al., 2018 from Iran; Elhosseiny et al., 2019 from Egypt. Similarly, A family-based case–control study was conducted at a major medical centre in the upper midwest in USA by Saito et al., 2008 revealed that irritable bowel syndrome

aggregates strongly in families.

These findings were strongly supported globally, where several studies considered the IBS as one of the diseases showing familial clustering. This was confirmed by the higher prevalence of IBS in monozygotic twins compared to the dizygotic twins which highlight the role of genetic predisposition (Saito et al., 2010).

Food allergy didn't play significant role in affection with IBS among the studied teachers (Table 2). Against the current study, food hypersensitivity was considered significant predictor of IBS among nurses (Ibrahim et al., 2016). Though the mentioned study adopted the same Rome criteria, used in the current study, to diagnose IBS, the medical background of the nurses compared to secondary school teachers might influence the orientation with food hypersensitivity which might be overlooked or misdiagnosed in teachers and thus affect the results.

However, literature supported an association between diet type and IBS. It was reported that consumption of some types of food was associated with IBS as canned food, processed meat, pulses, whole cereals, confectionary, fruit compotes, and herb tea. Food

allergy and intolerance was among the proposed mechanism to develop IBS (Chirila et al., 2012; Alharbi et al., 2019).

There was a significant association between increased BMI and IBS, and furthermore, between practicing physical exercise and IBS among the studied group (Table 3). Studies investigating the association between practicing physical exercise and IBS provided conflicting findings. Some studies agreed with the current study and provided strong evidences supporting the protective role of physical activities (Asare et al., 2012; Sadeghian et al., 2018). Similarly, Kasemy et al., 2020 reported that only 3.4% of those diagnosed with IBS reported regular practicing of physical activities compared to 12.8% of those not suffering of IBS. The aforementioned study contradicted the current study by reporting no significant variations in the BMI according to the IBS affection (Reed-Knight et al., 2016).

Smoking was not considered as one of the factors affecting prevalence of IBS (Table 3); which agreed with Chirila et al., 2012. However, a previous study exploring IBS among medical students showed that cigarette smoking was

associated with IBS (AlButaysh et al., 2020). This association was attributed to the negative impact of nicotine on the gastrointestinal tract. Nevertheless, considering the smoking a flag of psychological disturbance cannot be denied (Ibrahim, 2016).

Regarding the association between workload and IBS and consistent with the current study (Table 2), another study carried out in Saudi Arabia yielded that IBS was more associated with working for more day shifts (Alharbi and Jahan, 2022). Surprisingly, it was reported that IBS symptoms resolve during vacation days and worsen during work days (Elbadawi et al., 2016). Moreover, it was reported that students live in dormitory suffers from symptoms of IBS more during the period preceding the academic year, and the authors attributed that to the associated anxiety band emotional stress in that period (Elhosseiny et al., 2019).

There was a significant association between emotional stress, anxiety, depression and IBS among the studied teachers (Table 3). Moreover, these factors were considered significant risk predictors for IBS (Table 4). These findings were agreed by majority of previously conducted studies (Shen et

al., 2009; Dong et al., 2010; AlButaysh et al., 2020). These findings direct our attention to the significant association between anxiety, emotional stress and the predisposition to IBS (El-Serag et al., 2004; Elhosseiny et al., 2019; Fond et al., 2014; Arishi et al., 2021; Alharbi and Jahan, 2022)it remains unclear whether IBS and each of its subtypes (predominant diarrhea IBS-D, constipation IBS-C, mixed IBS-M.

In agreement with the current study, a Turkish study conveyed that IBS affected patients commonly suffers from depression compared to controls (Uz et al., 2007). On larger scale, Arishi et al., 2021 reported that psychiatric disorders in the form of depression, generalized anxiety disorders, panic attacks, and somatization were more frequent among IBS affected patients.

The frequent change in work style, teaching hours, and leadership exerted negative impacts on teachers psychological health and make many of them vulnerable to anxiety and emotional stress (Collie, 2021)stress related to change, and emotional exhaustion. Data were collected from 325 Australian teachers in May, 2020 during the first wave of COVID-19. During this time, many Australian

children were being taught remotely from home, while other students were attending schools in-person. Findings showed that autonomy-supportive leadership was associated with greater buoyancy and, in turn, lower somatic burden, stress related to change, and emotional exhaustion (while controlling for covariates, including COVID-19 work situation. Though the global nature of this problem, the Egyptian teachers were suffering more due to the great working load, long working hours and unsatisfactory income are direct causes participating the stress and anxiety among that group (Desouky and Allam, 2017)depression and anxiety among Egyptian teachers. A cross sectional study was done on 568 Egyptian teachers. The respondents filled a questionnaire on personal data, and the Arabic version of the Occupational Stress Index (OSI.

Conclusion and Recommendations:

IBS is prevalent among the studied general secondary school teachers. Screening of all teachers for IBS and analysis of the work environment to stand on all factors of this disorder are suggested. Providing psychological and emotional support along with stress management is highly recommended.

Efforts should be directed to reducing the career associated stress among Egyptian general secondary school teachers as a first step in reducing prevalence of IBS.

Conflict of interest

Funding

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