

Knowledge of Nursing College Students on Preventive Measures for Irritable Bowel Syndrome: Pre-Experimental Study

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Abstract:

Background: A common condition known as irritable bowel syndrome (IBS) is characterised by changed bowel habits and stomach pain that lasts for three months or more. Anatomical or metabolic abnormalities are not associated with the illness.

Objectives: to assess how well nursing college students understand IBS preventative methods after participating in an educational programme

Method: pre-experimental study design (one group pretest and posttest). The sample were 20 students, participate in 3 sessions educational program and data collected by questionnaire consisted of 43 items.

Results: The pre-test mean score and standard deviation are 1.27 ± 0.032 , indicating a low level of assessment for 18 (90%) of the sample, whereas 10 (50%) of the sample have a moderate level of assessment. At the post-test, the mean score and standard deviation are 1.68 ± 0.058 , respectively. Students' age and gender have no discernible bearing on the information they possess.

Recommendation: The researcher suggests conducting ongoing educational programmes for students about IBS preventive measures to raise their position of understanding about how to teach how patients to manage this syndrome, as well as increasing the length and frequency of IBS lectures and having lectures in multiple courses.

Conclusion: The training programme was successful in preparing nursing college students. Students' awareness of Irritable Bowel Syndrome prevention techniques.

Keywords: Knowledge, Irritable Bowel Syndrome, Preventive Measures, Nursing College Student.

Introduction

One prevalent condition is irritable bowel syndrome, or IBS. marked by altered bowel habits and stomach pain that lasts for three months or more. The sickness does not include any anomalies in the body's anatomy or metabolism. ⁽¹⁾ In general, irritable bowel syndrome is frequent; in European nations, its prevalence was around Twenty percent; recently, the morbidity rate in Asian nations has been increasing annually, approaching that of Western countries. ⁽²⁾

The frequency of IBS, or irritable bowel syndrome, is 11.2% worldwide. Irritable bowel syndrome (IBS) patients have a markedly reduced quality of life, and the condition has enormous financial and social repercussions. ^(3,4) The current state of medical care for Irritable Bowel Syndrome (IBS) is deemed inadequate, and the underlying pathophysiology of the condition remains unclear. The "gut-brain axis," a two-way communication channel between the gut and the brain, is assumed to be aberrant in IBS, and it may entail both mucosal and neuro-inflammation. ^(5,6)

Approximately 60% of individuals with irritable bowel syndrome (IBS) claim that their diet either improves or worsens their symptoms. ⁽⁷⁾ The most crucial step towards obtaining a good diagnosis of irritable bowel syndrome is a change in the shape and frequency of faeces. These alterations made it possible to divide irritable bowel syndrome into subgroups according to the most common patterns of stool experience. ⁽⁸⁾ Dietary research has spent the past ten years examining the connection between the

induction of IBS symptoms and fermentable oligo-, di-, and mono-saccharides and polyols, or FODMAPs. Reducing dietary FODMAPs has been shown to be beneficial in treating IBS symptoms by a large body of research. ⁽⁹⁾

Methodology

The purpose of the pre-experimental (one group) study design was to compare how well the educational programme affected nursing students' understanding of the second IBS at Al-Basra University's nursing college. The sample includes (20) students study group from the second stage. They are selected by using non- probability sampling (purposive sample) from nursing college. The study instrument consists of 2 parts, demographic data (gender, age, Marital status, Monthly income, Meals eaten) and items of students' knowledge about preventive measures of irritable bowel syndrome. It is consisted of (43 items). The items were graded and scored using a two-level dichotomous scale: (1) point for an incorrect response and (2) points for a correct answer. The scores were calculated using a cutoff point of 0.33, with points awarded for correct and incorrect answers, respectively. The scores of the answers are divided into groups based on the nurses' knowledge of the following: (1–1.33) denotes a low degree of knowledge, 1.34–1.67, a moderate level, and 1.68–2.00, a high level. The data collect as pretest, implementation of an educational program (include 3 sessions) and posttest. The data collected by self-administrated method after taken the sample consent. The data analysis by using SPSS program and using of descriptive and inferential statistical analysis.

Results

Table (1) distribution of the study sample by the general information

Variables		Study group		Control group	
		f	%	f	%
Gender	Female	12	60	11	55
	Male	8	40	9	45
	Total	20	100	20	100
Age	20-21	13	65	13	65
	22-23	7	35	7	35
	Total	20	100	20	100
Marital status	Single	12	60	11	55
	Married	6	30	7	35
	Divorced	2	10	2	10
	Total	20	100	20	100
Monthly income	Enough	11	55	12	60
	Not enough	9	45	8	40
	Total	20	100	20	100
Meals eaten	Fast food ready	7	35	5	25
	Home cooking	10	50	11	55
	Canned food	3	15	4	20
	Total	20	100	20	100

F=frequency, %=percent

This table shows that females more than males in the study and control group (60%, 55%) respectively, 65% of them at age (20-21) years for the both group, (60%, 55%) of the both groups were single, (55%, 60%) of both groups had enough monthly income and (50%, 55%) of them had eaten home cooking.

Table (2): Students' IBS Levels of Knowledge Distribution are determined by using the "Mean of Score" throughout the programme (pre- and post-test).

Period	Level of assessment	Frequency	Percent	
		Pretest		Low (1-1.33) Moderate (1.34-1.67) High (1.68-2) Total $\bar{x} \pm S.D$
Posttest		Low (1-1.33) Moderate (1.34-1.67) High (1.68-2) Total $\bar{x} \pm S.D$	- 10 10 20 1.68 ± 0.058	- 50 50 100

$\bar{x} \pm S.D.$ = Arithmetic Mean (\bar{x}) and Std. Dev. (S.D.)

According to the study's findings, 18 (90%) of the sample had low assessment levels at the level (1.00–1.33). The pre-test mean score and standard deviation were 1.27 ± 0.032 . A moderate degree of evaluation is present. of 10 (50 %) at level (1.34-1.67) and high level for 10 (50%) at level (1.68-2) of the sample the mean of score and standard deviation are (1.68 ± 0.058) at the post test.

Table (3) comparison between the Nursing students' knowledge of general information about Irritable Bowel Syndrome at the pretest and posttest

No.	Items	Pretest				Posttest				
		f	%	M.S	Ass	f	%	M.S	Ass	
1	Irritable bowel syndrome IBS is	Un-correct	12	60.0	1.40	M	2	10.0	1.90	H
		Correct	8	40.0			18	90.0		
2	Irritable bowel syndrome (IBS) is more common in	Un-correct	12	60.0	1.40	M	6	30.0	1.70	H
		Correct	8	40.0			14	70.0		
3	Other names for irritable bowel syndrome include all of the following except for	Un-correct	14	70.0	1.30	L	7	35.0	1.65	M
		Correct	6	30.0			13	65.0		
4	Which is not considered a risk factor for Irritable Bowel Syndrome:	Un-correct	13	65.0	1.35	M	8	40.0	1.60	M
		Correct	7	35.0			12	60.0		
5	Whichever is not considered a type of Irritable Bowel Syndrome includes	Un-correct	19	95.0	1.05	L	11	55.0	1.45	M
		Correct	1	5.0			9	45.0		
6	The physiological pathology of irritable bowel syndrome is due to several factors including the following except for	Un-correct	16	80.0	1.20	L	8	40.0	1.60	M
		Correct	4	20.0			12	60.0		
7	The distinctive sign of IBS is	Un-correct	14	70.0	1.30	L	8	40.0	1.60	M
		Correct	6	30.0			12	60.0		
8	The pain associated with IBS often calms down during	Un-correct	16	80.0	1.20	L	10	50.0	1.50	M
		Correct	4	20.0			10	50.0		
9	Which of the following reduces symptoms of Irritable Bowel Syndrome	Un-correct	15	75.0	1.25	L	8	40.0	1.60	M
		Correct	5	25.0			12	60.0		
10	Either is not a complication of Irritable Bowel Syndrome (IBS)	Un-correct	14	70.0	1.30	L	7	35.0	1.65	M
		Correct	6	30.0			13	65.0		
11	Which of the following statements about irritable bowel syndrome is correct	Un-correct	16	80.0	1.20	L	6	30.0	1.70	H
		Correct	4	20.0			14	70.0		
12	Which of the following infections is associated with an increased prevalence of Irritable Bowel Syndrome	Un-correct	18	90.0	1.10	L	11	55.0	1.45	M
		Correct	2	10.0			9	45.0		
13	Medicines that affect the function of the digestive system that may cause constipation include all of the following except	Un-correct	16	80.0	1.20	L	8	40.0	1.60	M
		Correct	4	20.0			12	60.0		
14	IBS can be diagnosed with all of the following except for	Un-correct	15	75.0	1.25	L	6	30.0	1.70	H
		Correct	5	25.0			14	70.0		

15	Bacterial organisms responsible for most episodes of infectious diarrhea include	Un-correct	17	85.0	1.15	L	6	30.0	1.70	H
		Correct	3	15.0			14	70.0		
16	In the event of diarrhea during irritable bowel syndrome, the treatment goals for diarrhea include all of the following except	Un-correct	15	75.0	1.25	L	11	55.0	1.45	M
		Correct	5	25.0			9	45.0		

%= percent, f= frequency, M. S. stands for mean score. Ass.= mean score assessment level, H = high level (1.68–2), M = moderate level (1.34–1.67), and L = low level (1–1.33)

This table shows that the sample at the pretest had low level of all items except the items (1,2 & 4) at moderate level of assessment. At the posttest had moderate level of all items except the items (1,2,11,14 & 15) at high level of assessment

Table (4) comparison between the nursing student knowledge about measures that reduce or prevent Irritable Bowel Syndrome at the pretest and posttest

No.	Items	Pretest				Posttest				
			f	%	M.S	Ass	f	%	M.S	Ass
1	Which of the following is not considered a treatment for Irritable Bowel Syndrome	Un-correct	15	75.0	1.25	L	4	20.0	1.80	H
		Correct	5	25.0			16	80.0		
2	Which of the following treatment measures is recommended to use in case of constipation associated with Irritable Bowel Syndrome	Un-correct	12	60.0	1.40	M	6	30.0	1.70	H
		Correct	8	40.0			14	70.0		
3	Which of the following is a treatment for pain associated with irritable bowel syndrome?	Un-correct	10	50.0	1.50	M	5	25.0	1.75	H
		Correct	10	50.0			15	75.0		
4	Which of the following is a treatment for constipation associated with irritable bowel syndrome?	Un-correct	16	80.0	1.20	L	8	40.0	1.60	M
		Correct	4	20.0			12	60.0		
5	The purpose of using antibiotics for irritable bowel syndrome	Un-correct	17	85.0	1.15	L	7	35.0	1.65	M
		Correct	3	15.0			13	65.0		
6	Treatment used to treat acute diarrhea for a patient with Irritable Bowel Syndrome	Un-correct	16	80.0	1.20	L	7	35.0	1.65	M
		Correct	4	20.0			13	65.0		
7	Which of the following does not improve treatment for Irritable Bowel Syndrome?	Un-correct	12	60.0	1.40	M	5	25.0	1.75	H
		Correct	8	40.0			15	75.0		
8	Which one of the following does not reduce stress and problems related to IBS	Un-correct	14	70.0	1.30	L	7	35.0	1.65	M
		Correct	6	30.0			13	65.0		
9	Foods that contain ingredients that can stimulate the intestine and cause diarrhea, include all of the following, except true?	Un-correct	16	80.0	1.20	L	7	35.0	1.65	M
		Correct	4	20.0			13	65.0		
10	Foods that trigger irritable bowel syndrome include all of the following except	Un-correct	15	75.0	1.25	L	6	30.0	1.70	H
		Correct	5	25.0			14	70.0		
11	There are foods to avoid that may cause symptoms, such as cruciferous vegetables and legumes, that include all of the following are true except	Un-correct	16	80.0	1.20	L	6	30.0	1.70	H
		Correct	4	20.0			14	70.0		
12	Which of the following foods can you eat while following a low-FODMAP diet that includes all of the following except?	Un-correct	12	60.0	1.40	M	3	15.0	1.85	H
		Correct	8	40.0			17	85.0		
13	Among the measures to control Irritable Bowel Syndrome is that the patient adapts his life to the disease through	Un-correct	16	80.0	1.20	L	1	5.0	1.95	H
		Correct	4	20.0			19	95.0		
14	The ideal diet to avoid or treat diarrhea not to eat foods like cold water and hot soup in the same meal?	Un-correct	12	60.0	1.40	M	3	15.0	1.85	H
		Correct	8	40.0			17	85.0		

f= frequency, %= percent, M. S.= mean score, Ass.= assessment level of mean score, L=low level (1-1.33), M=moderate level (1.34-1.67), H=high level (1.68-2)

cont. table

No.	Items	Pretest				Posttest				
		f	%	M.S	Ass	f	%	M.S	Ass	
15	Can stress and anxiety make irritable bowel syndrome worse?	Un-correct	9	45.0	1.55	M	1	5.0	1.95	H
		Correct	11	55.0			19	95.0		
16	To treat the stress that affects IBS patients, we follow healthy habits such as exercise and adequate sleep?	Un-correct	7	35.0	1.65	M	2	10.0	1.90	H
		Correct	13	65.0			18	90.0		
17	Symptoms that may accompany Irritable Bowel Syndrome may include lack of sleep, lethargy and dyspareunia?	Un-correct	17	85.0	1.15	L	9	45.0	1.55	M
		Correct	3	15.0			11	55.0		
18	Should people with Irritable Bowel Syndrome have information about their general lifestyle, physical activity, and diet that leads to poor symptoms associated with the disease?	Un-correct	18	90.0	1.10	L	9	45.0	1.55	M
		Correct	2	10.0			11	55.0		
19	Should healthcare professionals discourage the use of aloe vera in the treatment of irritable bowel syndrome?	Un-correct	14	70.0	1.30	L	8	40.0	1.60	M
		Correct	6	30.0			12	60.0		
20	Irritable bowel syndrome does not lead to cancer or increase the risk of it?	Un-correct	16	80.0	1.20	L	6	30.0	1.70	H
		Correct	4	20.0			14	70.0		
21	Irritable bowel syndrome is a healthy disease, but attention must be paid to several things that may warrant further investigation. Among these are: Age over 45 years, unexplained weight loss?	Un-correct	17	85.0	1.15	L	9	45.0	1.55	M
		Correct	3	15.0			11	55.0		
22	One study showed that 70% of the general population has experienced gastrointestinal changes due to psychological stress, and that 45% of laxative users suffer from psychological stress?	Un-correct	14	70.0	1.30	L	8	40.0	1.60	M
		Correct	6	30.0			12	60.0		
23	Irritable bowel syndrome can be treated with alternative treatment that includes acupuncture, relaxation technique, probiotics, mint oil?	Un-correct	16	80.0	1.20	L	8	40.0	1.60	M
		Correct	4	20.0			12	60.0		
24	Using soluble fiber helps reduce symptoms completely, but not with pain?	Un-correct	13	65.0	1.35	M	5	25.0	1.75	H
		Correct	7	35.0			15	75.0		
25	Adhering to the FODMAP diet helps reduce 70% of the symptoms of Irritable Bowel Syndrome, which includes flatulence, abdominal pain, and stool excretion?	Un-correct	13	65.0	1.35	M	3	15.0	1.85	H
		Correct	7	35.0			17	85.0		
26	It is noteworthy that dietary fiber is used as a treatment for diarrhea predominant in Irritable Bowel Syndrome.	Un-correct	13	65.0	1.35	M	1	5.0	1.95	H
		Correct	7	35.0			19	95.0		
27	Irritable bowel syndrome symptoms can be controlled, but each person has different measures depending on the type of personality, work, effort, food, surroundings, etc.	Un-correct	16	80.0	1.20	L	3	15.0	1.85	H
		Correct	4	20.0			17	85.0		

%= percent, f= frequency, M. S. stands for mean score. Ass.= mean score assessment level, H = high level (1.68–2), M = moderate level (1.34–1.67), and L = low level (1–1.33)

This table shows that the sample at the pretest had low level of all items except the items (2,3,7,12,14,15,16,24,25 & 26) at moderate level of assessment. at the posttest had high level of all items except the items (4,5,6,8,9,17,18,19,21,22 & 23) at moderate level of assessment

Table (5) relationship between nursing student’s knowledge toward IBS and their demographic characteristics at the pretest and posttest

Variables		Pretest				Posttest			
		Low	Moderate	Total	Chi	Low	Moderate	Total	Chi
Gender	Female	10	1	11	X ² =0.669 d.f=1 P=0.413	8	3	11	X ² =0.087 d.f=1 P=0.76
	Male	7	2	9		6	3	9	
	Total	17	3	20		14	6	20	

Age	20-21	12	1	13	$X^2=1.55$ d.f=1 P=0.212	10	3	13	$X^2=0.848$ d.f=1 P=0.35
	22-23	5	2	7		4	3	7	
	Total	17	3	20		14	6	20	
Marital status	Single	11	0	11	$X^2=4.874$ d.f=2 P=0.08	8	3	11	$X^2=0.42$ d.f=2 P=0.808
	Married	5	2	7		5	2	7	
	Divorced	1	1	2		1	1	2	
	Total	17	3	20		14	6	20	
Monthly income	Enough	11	1	12	$X^2=1.04$ d.f=1 P=0.306	9	3	12	$X^2=0.357$ d.f=1 P=0.55
	Not enough	6	2	8		5	3	8	
	Total	17	3	20		14	6	20	
Meals eaten	Fast food ready	4	1	5	$X^2=0.89$ d.f=2 P=0.64	3	2	5	$X^2=0.325$ d.f=2 P=0.85
	Home cooking	9	2	11		8	3	11	
	Canned food	4	0	4		3	1	4	
	Total	17	3	20		14	6	20	

X^2 =chi square, d.f=degree of freedom, P= p-value

Table 5: There is no significant relationship between the nursing student's knowledge toward IBS and their demographic characteristics at the pretest and posttest

DISCUSSION:

Part One: Students' Socio-Demographic Characteristics

1. Age Groups

The majority (60.%) of participants in the survey were between the ages of 20 and 21. This data is in line with the study by Vasquez-Rios (2019), which found that most nurses (66.8%) were between the ages of 22 and 26. However, the results of a research on the prevalence of irritable bowel syndrome among medical students at Hail University in Saudi Arabia (Alshammari, 2018) contradict this conclusion. That study found that 36.8% of nurses between the ages of 24 and 26 had the illness. (10)(11)

2. Gender

The majority of participants (60%, 55%) in both the study and control groups were female, according to the current study's results on the gender of nurses. These findings are in line with research conducted in Baghdad city by Hassan & Najm (2016), which discovered that both the study and control groups included a majority of female participants (56.6%). As an alternative, Brown-Lieberson's (2019) findings, which revealed that most participants in his research sample (56.1%) both the research and control groups' participants were female, are consistent with these results. Nonetheless, the findings of this study conflict with those of another study carried out by Alshammari (2018), which showed that most participants (48.1%) were male. (10)(12)

3. Marital status

The majority of individuals in both the research and control groups are single (55%, 60%), according to the study's findings. This outcome is in line with a research by Alshammari (2018), which found that most individuals 95.5% of the research and control groups were made up of single people. Khan et al. (2019) reported that 43.4 percent of the sample consisted of single individuals, which is another unjustified finding. These results conflict with a research by Hassan (2010), which discovered that a minority of study participants—21.4%—were single in both the control and study groups. (13)

4. Monthly Income:

The majority of participants in both the study and control groups ((55%, 60%) do make enough money each month, according to the study's findings. This finding is conflict with research by Vasquez-Rios et al. (2019), which found that 51.5% of patients in both the study and control groups did not make enough money each month. However, this conclusion was in consist with a research conducted by Elhosseiny et al. (2019), which found that the majority of participants (57.5%) had sufficient monthly income. (14)

Part two: knowledge nursing students about preventive measures

In reference to The results indicate that there are statistically significant differences between nursing students' (second stage) understanding of IBS preventive measures and the study group's pre- and post-test results, but not in the control group's pre- and post-test results for any of the domains of preventative measures of irritable bowel syndrome, with the exception of prevention domains

This outcome is in line with a study by Najm and Hassan (2016), which examined the knowledge-enhancing effects of an instructional programme on patients with irritable bowel syndrome at a hospital for liver and digestive diseases in Baghdad. The study's participants reported that the programme was successful in raising their level of knowledge..

Additionally, the results of this study are in line with those of a 2015 study by Ghiyasvandian, which examined the impact of a self-care programme on the severity of symptoms and quality of life in IBS patients. That study found that implementing a self-care programme improved equality of life and reduced symptom severity in the group exposed to it, while no discernible change was seen in the group that was not exposed to the programme.(15)

Zheng et al.'s (2019) study corroborated the findings of the current study by demonstrating that students with irritable bowel syndrome can benefit from a health education programme. The study found that there were notable differences between the education group and the no education group.(16)

Additionally, the results of this study are in line with a study by Mahmoudi et al. (2019) that assessed community pharmacists' knowledge, attitudes, and practices regarding IBS in Iran. The study found that pharmacists who had completed IBS training courses answered correctly to every question, and that the training improved their ability to assess IBS patients because they are easily accessible healthcare professionals.(17)

This finding was corroborated by another study by Borji et al. (2012), which found that individuals with IBS had a considerably greater incidence of restless legs syndrome (RLS). Association Between Irritable Bowel Syndrome and Restless Legs Syndrome: A Comparative finding With Control Group.18)

Additionally, research that supports the findings of the current study was carried out in Alahsa, Saudi Arabia by Khan et al. (2019) to assess knowledge and related risk factors of irritable bowel syndrome. They found that programmes promoting IBS awareness are necessary to raise awareness, reduce functional disabilities, and improve quality of life.

Moreover, Bengtsson et al. (2010) estimated A Holistic Approach for Planning Care of Patients with Irritable Bowel Syndrome; however, their results were in conflict with the current study's conclusions, stating that there were no statistically significant differences between the two groups in the current study or when compared to the participants who had GI disorders but without IBS. (19)

Conclusion

The educational program has positive effect on the nursing college students at second stage, it is improving their knowledge from low level of assessment of 18 (90%) of the sample at level (1.00-1.33) the mean of score and standard deviation are (1.27±0.032) at the pre-test to moderate level of assessment of 10 (50 %) at level (1.34-1.67) and high level for 10 (50%) at level (1.68-2) of the sample the mean of score and standard deviation are (1.68±0.058) at the post test. There is no significant

statistical relationship between nursing students' knowledge toward preventive measure of irritable bowel syndrome and their gender and age

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