

The relationship between irritable bowel syndrome, depression, anxiety, and stress among sample of irritable bowel patients - predictive study

Abstract

This study aimed to examine the relationship of irritable bowel syndrome, anxiety, depression and stress among a sample of 78 IBS patients (Rome III Diagnostic Criteria for Irritable Bowel Syndrome), anxiety symptoms scale, Depression symptoms scale, and stress scale (prepared by the researcher) were used Pearson Correlation Coefficient showed that there are statistically significant relationship between IBS and Anxiety, Depression and Stress ($P \leq 0.01$). The Regression and Prediction Coefficient (stepwise) was also used and showed that the depression and Stress of predicts to IBS.

Keywords: irritable bowel syndrome, depression, anxiety, stress

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Introduction

Researcher believe that the health and disease are two sides of a single phenomenon, since it was found and humane societies and continues to the present of the basic concerns of the people and communities. Therefore man is always trying to look for the right conditions that will make it on the one hand adapt to external and internal pressures on the other hand being able to achieve physiological and psychological balance that cannot be achieved unless the health of soul and body together. There are also a lot of physical ailments that are due to psychological reasons, and Personality aspects study of physical, psychological and mental is considered important foundation for the understanding of normal and pathological human behavior and this holistic view of the human person as a psychological and physical enable us to understand and diagnose the disease and treatment.

But the most important, psychosomatic disorders, which became popular after World War II were those diseases that appear in the form of actual or real defect in the tissue or the wall of the stomach or large intestine or skin or respiratory function or other forms of disease, which has become the main concern for many of the employed cells injuries medicine, because they are perplexed in the search for its causes, and medical efforts failed to eradicate them is not surprising because all of these efforts have been directed towards the offer without searching for reasons¹ and with the advent of the psychosomatic Medicine book 1943 for (Wise & English) and a "psychosomatic Researches book for (Jrnkar) in 1953 known psychosomatic right track in each of the areas of medicine, psychology, becoming conducted hundreds of studies psychosomatic annually across the world.²

Since it included the term of psychosomatic used and their definitions varied are difficult to be confined to the different theoretical and clinical trends, then mention, for example, that in 1968 used by the American Psychiatric Association to refer him to the visceral and subjective psycho physiological disorders, and in the Encyclopedia of psychoanalysis in 1968 (Glover) using the term psychosomatic refers to its boiling organic those changes resulting from emotional changes.³

IBS is considered the famous kinds of psychosomatic disorders, where IBS is that such a machine which Exceptions to orchestra music and led to the cacophony of melody. This means that the work

of the colon and his movement is no longer compatible with the rest of the digestive tract is either faster (leading to diarrhea) or slow down (leading to constipation) or occasional (leading to diarrhea and sometimes constipation at other times), but in all cases, be accompanied severe pain in the abdomen, where the contractions of the colon and unaccounted which graduated outside the flock be painful in contrast to his movement by reversing the natural movement in line with the rest of the digestive tract movement.⁴

The irritable bowel syndrome disorders which puzzled by specialists the complexity of causes where there is unrest organic as there may be psychological reasons are to be responsible for it. Irritable bowel syndrome (IBS) has been widely studied in the western world and pathphysiologic mechanisms have been available to explain the constellation of symptoms. IBS is a chronic disorder of unknown etiology clinically consisting of altered bowel habits, abdominal pain and the absence of any detectable organic pathologic process. Along with the putative pathophysiological mechanisms of post-infectious inflammatory disorder, disordered intestinal motility and visceral hypersensitivity, there has been much discussion regarding the brain-gut interaction and the influence of behavioral or psychiatric conditions on these symptoms⁵ and Several groups have determined that psychosocial stress alters GI motor function and sensation. In this way, psychosocial stressors likely exacerbate GI symptoms in patients who have functional GI disorders. Anxiety disorders, somatoform disorders, or a history of physical or sexual abuse can be identified in approximately 42% to 61% of patients who have IBS in referral practices. In particular, several studies suggested that the presence of somatization is particularly common and likely influences outcomes in patients who have IBS, The role of emotional stress as an etiologic factor in the development of IBS symptoms also may be inferred from the effects of psychological therapies on IBS symptoms.⁶

It is clear to the researcher the role of psychological factors and their relationship to the emergence of irritable bowel syndrome, because the irritable bowel syndrome is one of psychosomatic disorders in which shocks the emotional may turn into somatic symptoms vary depending on the psychological structure of the people, making the researcher aims to study the irritable bowel syndrome and its relationship with some psychological variables such as anxiety, depression and stress psychological.

Objective

Considering the background above, this research aimed to:

- a. examine the relationship between irritable bowel syndrome and depression
- b. examine the relationship between irritable bowel syndrome and anxiety
- c. examine the relationship between irritable bowel syndrome and stress
- d. examine the predictive relationship for irritable bowel syndrome through anxiety, depression and stress.

Literature review

Irritable bowel syndrome

The talking about psychosomatic disorders leads us to talk about the history of the relationship between self and the body and the effect on each other a long and extensive history since antiquity as the human intellect, since medical and psychological literature, which extends to 4500 years where the Emperor of China's younger, "Huang Ti," pointed out that frustration causes for people diseases membership has recommended that we explore the wishes of the people and their ideas and pursue them.⁷

With the beginning of the twentieth century it has spread the use of the scientists of the concept of the interrelationship between the soul and the body, has a number of developments have led in the areas of psychology, physiology, medicine psychology to the emergence of the trend psychosomatic disorder talk and perhaps the most important findings of (Bavlov) in the results of the pilot in the reflected cop act, which focused on the impact of factors research psychological on the physiological functions of the physiological effects of severe stimuli emotional.⁸ The impact of the origination of the field of psychosomatic medicine two main thrusts ,First the direction of psychoanalysis, which revived the concept of psychological origin of the disease organic psychogenesis and the second direction tends to tangle Holism concept in human interpretation in cases of health and disease has the club in this direction (Adolf, Mayer) which stressed the need for biological psychology to the study of the human as a whole in cases of health and disease.⁹

Researcher believe that the self-improvement as affected by the body, then there is a high correlation between the soul and the body from two Cases of psychological and mental processes lead to bring about certain changes in the body, and some of the physiological and mental changes affect the self. And Researcher believe through offer historical relationship between soul and body are dialectical relationship has gone in opposite the first direction, and who believes that mind and body are two things separate and believes in the principle of duplication or bilateral, the second direction which emphasizes that the mind and body is one thing and the two sides of the same coin and can therefore be say that psychosomatic illnesses are the result of the impact of psychology on the body which is the result of the close relationship between soul and body.

Irritable bowel syndrome is one of the famous psychosomatic disorders because of the complexity of its causes and different doctors in treatment where there is unrest organic apparent reason .And We can call irritable bowel disease as a disease age where the statistics of the World Health Organization reported that 20% of people in the world suffer from this disease as the irritable bowel syndrome is a disease that everyone suffers from it rich and poor, male and female.¹⁰

The irritable bowel syndrome (IBS) is the most common disorder encountered by gastroenterologists. IBS is defined as "a functional bowel disorder in which abdominal pain is associated with defecation or a change in bowel habit with features of disordered defecation and distension".¹¹

The pathophysiology of IBS is still inadequately understood, but it is most likely due to complex interactions between the immune, hormonal and nervous systems. Diverse factors, including psychological stress, food intolerance or allergy, intestinal infection, injury (e.g., abdominal or pelvic surgery), intestinal immune disruption and/or inflammation, changes in the intestinal microbiota or bacterial overgrowth, and genetic transmission, abuse and early life learning, have been found to contribute to the development of IBS syndrome according to the research in the last decade.¹² The pathophysiology of IBS is incompletely understood and thought to be multifactorial, Factors that may contribute to IBS include genetic, abnormal GI motility, visceral hypersensitivity, low-grade mucosal inflammation, impaired epithelial barrier function and alterations in intestinal flora; it is not known how these factors interact with each other.¹³

Medicine did not reach to determine the causes of IBS specifically. But the most likely theory says that when the colon is sensitive to psychological pressure, anxiety, depression or some types of foods break down his work, causing the so-called IBS. Some other theory is that the immune system, which protects the body from germs may have an effect in cases IBS.¹⁴

Researchers have disagreed in determining the apparent cause of the disorder Irritable Bowel In one classic study was conducted on a person named "Tom" Tom, a sick employee ulcer and he had a "fistula" any window in the wall of the abdomen adjacent to the stomach, doctors have that window open as a result of an injury Palmira where he was Tom, has to deal with the daily share of the tensions and pressures of work, but in the case of "Tom" was easy for researchers to observe some of the pressure responses by watching the stomach mucous membrane of the window in the abdominal wall researchers have noted that "Tom" after all The complaint muscles constrict the stomach and cramps and increases the secretion of hydrochloric acid, and it was the mucous membrane of the stomach shows it flushes especially when he feels "Tom" angry and upset, This results indicate to the role of the mental health of a patient IBS.

Patients with IBS are suffering from a variety of GI complaints, as well as, associated symptoms like headache, dysuria, fibromyalgia, anxiety, depression, and chronic fatigue syndrome. Anxiety, depression and somatoform disorders are the most prevalent psychiatric conditions linked to IBS. It is reported that at least one of these disorders is present in approximately 40 to 60 percent of IBS patients visited by physicians in gastroenterology clinics. Results from some studies with population-based design have reported lower rates of psychiatric symptoms in non-consulters IBS patients (i.e., individuals who do not consult with any physician) . While a number of IBS patients feel that their psychiatric disorders is the result of the intrusive nature of their IBS.¹⁵ Others think that their psychiatric disorders are related to the development of their GI symptoms. However, approximately half of patients with a psychiatric disorder develop the condition before the onset of GI symptoms, and psychiatric symptoms start at the same time in most of the remaining fifty percent.¹⁶

Through previous offer, we find that he needs to be more research shows that psychological factors that predict for irritable bowel syndrome, and this is the objective of the current study, they tested the predictive relationship for irritable bowel syndrome through anxiety, depression and stress.

Anxiety

Anxiety disease suffered by around five percent of the population as there is overwhelming evidence to suggest that there is possible biological basis. This evidence indicates that stress may play a role in amplifying the disease As is the case in many diseases, but the biological factors may be more important role in this disease of the role of stress alone.

Richard Swain indicates that anxiety is the basis of all kinds of psychopathology which means there is a warning of danger threatening the safety of man and that there is a relationship between anxiety and physiological responses to humans.¹⁷

Anxiety according to Jung as a reaction carried out by an individual when he secreted his mind powers and fantasies unreasonable issued by the social subconscious ,Anxiety is the fear of the control the contents of the social unconscious is reasonable that not a still lingers in which human primitive life, and Yong believes that man is usually interested in organizing his life on the basis of reasonable organization and the emergence of art is reasonable in the social unconscious is a threat to its existence.¹⁸

Researcher believe that While the human behavior certain, this behavior results in one complete any personal behavior that is as a physical and psychological. Mental health and physical situation affected the opposite is true in the balance under the normal circumstances of a personal normal adaptive, and the body is considered as an intermediary between the external environment and self as an psychological entity, emotional turmoil leads to a disruption of this balance as the digestive tract affected by anxiety.

Recent work suggests that some patients may be biochemically more sensitive to the development of anxiety symptoms in the presence of particular diseases. patients with generalized anxiety disorders have higher plasma catecholamine levels than normal controls. These patients may down regulate catechol receptors as a result of these higher plasma concentrations and thus experience reduced receptor sensitivity in their adrenergic nervous system.¹⁹

Also According to Harvard Medical School, there may be a connection between anxiety disorders and the development of irritable bowel syndrome (IBS) after a bowel infection. IBS can cause vomiting, diarrhea, or constipation.²⁰

Depression

Depression expresses about of symptoms complex group called depressive syndrome concept by scientists, it is clear that the symptoms of depression may vary from one individual to another. Some may take their depression form of harsh feelings of blame and scold self comes when others are mixed with physical complaints and diseases, physical manner may not know borders between them.²¹

Depression is a significant contributor to the global burden of disease and affects people in all communities across the world. Today, depression is estimated to affect 350million people. The World Mental Health Survey conducted in 17 countries found that on average about 1 in 20 people reported having an episode of depression in the previous year. Depressive disorders often start at a young age; they reduce people's functioning and often are recurring. For these reasons, depression is the leading cause of disability worldwide in terms of total years lost due to disability. The demand for curbing depression and other mental health conditions is on the rise glob- ally. A recent World Health Assembly called on the World Health Organization and its member states to take action in this direction.²²

The depression According to²³ at least two of the following additional symptoms are present; poor appetite or overeating, trouble sleeping or too much sleeping, low energy or fatigue, low self-esteem, poor concentration or difficulty making decisions, and feelings of hopelessness.

Depression may be related to the emergence of many different diseases, and may differ how difficult it is to treat, it is characterized by the enormous diversity regular depression disease, according to the state of each individual. According to the standards of the World Health Organization ICD-10 can distinguish depression stage through injury status of grief and resentment going on for a time period of two weeks at the very least, with the associated loss of the ability to feel happy and activity and interest in things in addition to the loss of the ability to concentrate and the ability to perform in general. In addition to the appearance of symptoms such as sleep disorders, loss of appetite, weight loss and limited thinking on the positions that the patient believes it does not have a way out. This may lead to the emergence of ideas that relate to death and actual suicidal intentions. And going slow in thinking and often tends to think about one subject is often how bad the situation and the despair of the current situation and the extent to which the future looks without any hope.(keik.2010) .Also Some studies results have shown for relation between depression and symptoms, physical This is the kind of symptoms of the most common and most deception, such as the speed of fatigue and weakness of power, back pain, body and digestive disorders and stomach without that there will be reasons clear membership justify it.²⁴

according to the Crohn's & Colitis Foundation of America (CCFA). The Patients with depressive symptoms typically have reported a lower quality of life and may be at an increased risk for relapses of IBD symptoms. Depression can directly impact the healing process for IBD because it affects the immune system, which can prompt an inflammatory response. "Studies have found that when patients with IBD received mental health care, they spent fewer days in the hospital and took fewer sick days off from work.

Researcher believe that the mood disorders of the most important factors that cause psychosomatic disorder through the impact of these disturbances on the digestive system because the mood disorders some of the symptoms, such as eating disorders and sleeping and that may affect the digestive functions.

Stress

The Walter Cannon description 1932 in response to the fighting or escape Fight or flight response is one of the scientific contributions in the study of early pressure, it was Canon saw that this response is an adaptive response to it enables the organism to respond quickly to threats.²⁵

Canon Researches has revealed the existence of a mechanism in the human body contribute to retaining a state of equilibrium Homeostasis any capacity to cope with the changes they face and return to the case of organic and chemical balance the end of the situations that cause these changes, and then, any external demand could be in violation of this balance if the body fails to deal with, and this is what considered by Canon that stress faced by the individual, which may lead to membership problems had also been given and he attention to the role of the sympathetic device for its important role in creating the body to cope with stressful situations and enable the body to maintain balance referred to.²⁶

While one of the most outstanding scientific contributions in the field of stress are studies in (1965-1976) by Hans selye on a symptom

Group of the general adoption syndrome and although the “Selye” was originally explores the effects of sex hormones on the physiological performance, however He became interested in The effect of stress.²⁷

And Selye Has been reached, through his researches that the organism in the case of the face of a stress situation it drives himself around the act and this act his way adrenergic gland that increases the secretion of activity sympathetic nervous system, and this response in itself is not a special quality for a particular compressor means that the individual, regardless of the reason for the threat uses the same physiological response pattern, with time and repeated and prolonged exposure to stress rupture in the sympathetic device happens. Through this presentation researcher believes that psychological stress is one of the causes of psychosomatic symptoms and where turn emotions psychological to physical symptoms such as irritable bowel disorders or skin disorders, in which the man through maintaining the balance sought by the threat caused by the psychological stress.

Bonaz et al.,²⁸ noted that the result in the lack of gastric emptying and prolong small bowel movement also cause an increase in bowel movement as well as its impact on the function of the gastrointestinal tract .And The impact of stress on the stomach goes far beyond indigestion, however. In recent years, doctors have uncovered a remarkably complex connection between the brain and the digestive system. The entire system is extremely sensitive to our moods. In fact, experts now see stress as a major player in a wide range of digestive problems, including irritable bowel syndrome, indigestion, and heartburn .People with digestive problems often scoff at the idea that stress could be at the root of their problems.²⁹

Researcher believes that the relationship between soul and body all that affected by itself, of course, will affect the body, and so the case when human psychological stress has exposed some of the most famous and physical symptoms of irritable bowel disorder.

Research issue

This study aimed to examine the relationship between irritable bowel syndrome and depression, examine the relationship between irritable bowel syndrome and anxiety, examine the relationship between irritable bowel syndrome and stress and examine the predictive relationship for irritable bowel syndrome through anxiety, depression and stress. The research inquiries are:

- What is the relationship between depression and the irritable bowel syndrome of IBS patients?
- What is the relationship between anxiety and the irritable bowel syndrome of IBS patients?
- What is the relationship between stress and the irritable bowel syndrome of IBS patients?
- Can irritable bowel syndrome be predicted by depression, anxiety or stress?

Methodology & procedures

Methodology

Descriptive method is used. It enables the researcher to explore the relationship of irritable bowel syndrome and anxiety, depression, stress and the predicted relationship irritable bowel syndrome and those variables.

Study population and sample

The study tools were applied on 78 irritable bowel syndrome patients.

Study tools

The following tools were used:

- Anxiety symptoms Scale, prepared by the researcher.
- Depression symptoms Scale, prepared by the researcher.
- Psychological stress scale, prepared by the researcher.
- Rome III Diagnostic Criteria for Irritable Bowel Syndrome.

Results & Discussion

The first inquiry: What is the relationship between Irritable Bowel Syndrome and the Depression for IBS patients (Table 1)

There is a positive statistical significance relation between Irritable Bowel Syndrome and depression at 0.01. This result shows that more depression, more Irritable Bowel Syndrome. According High rates of depression amongst patients with irritable bowel syndrome (IBS) have led many researchers to believe there could be a causal relationship between psychological factors and IBS symptoms. may also be symptoms of depression. See a doctor for a medical evaluation to determine the cause of your symptoms.³⁰

Alexander has confirmed that psychological factors are the main factors are causing physical disease, and talked about the premise of the Psychogenic concept which includes the importance of specific psychological factors, including stress, anxiety and depression are believed to play a crucial role in the incidence of such disorders, because the stress state of the individual breed has no emotional conflicts, these conflicts evoke defensive mechanisms of lead in turn to emotional responses lead to provoke visceral responses, which in turn caused psychosomatic disorders.³¹ And Often have physical symptoms of depression, this is kind of the symptoms of the most common and most insidious symptoms, speed fatigue, poor energy, back pain and body, without that there will be reasons clear membership justify It somatic complaints of depression, sleep disorders, headaches, stomach pains and Digestive disorders.²¹

The evidence of relationship depression with irritable bowel disease research studies have shown that they can also be effective as analgesics (drugs that reduce pain). Antidepressants are, therefore, used to treat such chronic painful conditions as migraine headaches, diabetic neuropathy and fibromyalgia. Similarly, antidepressants are effective in treating symptoms of IBS and other functional GI disorders. Patients who have taken antidepressants for their IBS symptoms have reported significant improvement in their abdominal pain and reduction in other IBS symptoms, such as diarrhea, constipation, bloating, nausea or urgency. The brain is always monitoring and processing all that goes on in the body.³²

Researcher believe that this result indicates that the relationship between depression and irritable bowel syndrome is the relationship suggest that depression and contents of symptoms is one of the main factors associated with the emergence of irritable bowel syndrome.

The second inquiry: What is the relationship between Irritable Bowel Syndrome and the Anxiety for IBS patients (Table 2)

There is a positive statistical significance relation between Irritable Bowel Syndrome and anxiety at 0.01. This result shows that more anxiety, more Irritable Bowel Syndrome. According Gournay The causation of irritable bowel syndrome is something that remains the source of debate and controversy. However, it seems clear from the physiological point of view, that some people have particularly sensitive intestinal tracts and muscle activity is increased.³³ There is

also a relationship between anxiety and digestive disorders as anxiety causes human suffering from vomiting and diarrhea, swelling of the stomach and digestive trouble.³⁴ Much less is known about the impact of anxiety disorders on function and outcome in persons with chronic medical illness. There is convincing evidence that anxiety is associated with high rates of medically unexplained symptoms and increased utilization of healthcare resources.³⁵

Researcher believe through as a result of the second question of the study to the anxiety turns into physical symptoms The reason for this shift to the unconscious where the cargo emotional turn into certain physical symptoms with a special meaning for her patient relationship, including a stock unconscious from previous experiences.

The Third inquiry: What is the relationship between Irritable Bowel Syndrome and stress for IBS patients (Table 3)

There is a positive statistical significance relation between Irritable Bowel Syndrome and stress at 0.01. This result shows that more stress, more Irritable Bowel Syndrome, The causal relationship between stress and turmoil psychosomatic, where the term Psychosomatic suggests a causal psychology behind the physical symptoms, which are those of causality which alerted us to it, "Canon", where different path results agitation among themselves and this is what is known in medicine psychological as the hysteria shift, as the shift in the hysteria of the emotional conflict falls under the weight of repression arises transforms the psychological conflict into a physical display is at its core a symbolic expression of a compromise between the desire and defense when we find it in symptoms psychosomatic very different, Rising, for example, blood pressure in a state of anger but it is in fact an integral part of the case of the same anger, as a result of physical mechanics of being in the autonomic nervous system.³⁶

There is no doubt that there is a strong bond between man's soul and mind and body events and conditions that affect the psychology or mind in turn affect the body, studies have proven the continuation of acute stress in a short time can cause the individual to chronic headaches, high blood pressure and increase the proportion of Alklorsterol in the blood, In the long-term functional pressures can lead to heart disease, ulcers, arthritis and gastrointestinal disorders such as irritable bowel disorder.³⁷

Stress as a specific medical term was first defined by the endocrinologist Hans Selye in 1936 as the physiological adaptive responses to perceived (psychological) or real (physical) threats ("stressors") to an organism. An acute (sudden or short-term) stressor can evoke a "fight or flight" response that prepares to defend the stability of the internal environment in order to ensure the survival of the organism. When the stress passes, a negative feedback is triggered to terminate the stress response and bring the body back to a state of homeostasis or eustasis. However, if the stressor becomes chronic and/ or exceeds the organism's ability to maintain the stress response, it becomes harmful because basal homeostasis cannot be reached. For most humans in modern societies, psychological stress is more frequent than physical stress and it may be induced by various social and emotional triggers, some of which can be unique for an individual.¹²

According to Tache³⁸ a person's stress response involves a network of brain regions that interact as they receive information from inside or outside the body. When stress activates this network, it triggers two main pathways. One is called the pituitary-adrenal axis, which acts to increase circulating hormones (glucocorticoids – particularly cortisol) involved with regulating the body's response to stress. The other is the autonomic nervous system, which regulates involuntary bodily

functions such as our blood pressure, heart rate, and bowel function. Both of these pathways directly or indirectly affect gut function through the unique system of nerves within the bowel wall (enteric nervous system). These pathways, along with the brain and enteric nervous system, are collectively referred to as the "brain-gut axis."

In the stress-activated pathways, the corticotrophin releasing factor (CRF) signaling system is a key element in the biochemical mechanism by which the brain translates a stimulus into an integrated physical response. This system is composed of the 41 amino acid peptide, three related peptides, namely urocortin 1, urocortin 2 and urocortin 3, as well as the CRF receptors CRF1 and CRF2 and their variants. When the body experiences stress, the CRF signaling system plays a primary neuroendocrine role in stimulating the HPA axis, acting as a neurotransmitter/neuromodulator to coordinate the immune and visceral efferent limbs, and activating the locus coeruleus and its noradrenergic projections. The CRF system can also modulate the forebrain, hindbrain and spinal sites for regulating the autonomic nervous system activity, leading to the stimulation of the sympathetic nervous system, release of catecholamine's and induction of sacral parasympathetic activity. In addition, stress affects directly or indirectly the composition and the growth of microbiota, which helps to maintain bidirectional communication between the components of the brain and the gut axis. The impact of stress on the brain-gut axis has been reviewed by Grenham et al. and O'Malley et al.,¹² Also The stress response causes a number of detrimental events in the gut, including Decreased nutrient absorption, decreased oxygenation to your gut, as much as four times less blood flow to your digestive system, which leads to decreased metabolism and decreased enzymatic output in your gut – as much as 20,000-fold but that's not all .

Through this result researcher believes that the psychological structure of the human being is the determining factor in human's reaction to the stress faced by this and that differentiates between the person and the other person has been exposed to two people of the same stress but we find human being has been physically affected and the other person not affected by last.

The fourth inquiry: Can Irritable Bowel Syndrome be predicted by depression, anxiety or stress

Regression coefficient and gradual prediction (stepwise) were used. There is two modes predicts the Irritable Bowel Syndrome by

1. Depression and
2. Depression with stress

The model number one predicts the Irritable Bowel Syndrome by depression, Multiple regression equation of the model (Table 4):

Dependent Variables (Irritable Bowel Syndrome)= Constant+ B for (Depression) x value Depression Example: if it is assumed that one Irritable Bowel Syndrome patient received a score of 50 on the Depression scale, her/his score of Irritable Bowel Syndrome will = 25.782 + (0.581 x 50)

$$=25.782+29.05$$

$$=54.832$$

Researcher believe through this result that Irritable Bowel Syndrome predict by depression, This result can be explained by the close relationship between the soul and the body where injury to a particular organ in the body is not due to weakness formative and bacon may be due to the function of this user-related frustrating position that the cause of these disorders.

Such an these result consistent with the results of a study of which found Chronic life stress threat was a powerful predictor of subsequent symptom intensity, explaining 97% of the variance on this measure over 16 months. No patient exposed to even one chronic highly threatening stressor improved clinically (by 50%) over the 16 months; all patients who improved did so in the absence of such a stressor.

Stress is a ubiquitous condition that affects all people. Stress can be mental or physical, although in the context of this article the focus will be mental stress. Mental stress involves challenge, threat or worry about future adverse events. Such stress activates the brain's stress response systems, which in turn affect the body. Many of the body's major systems are altered by stress (cardiovascular, muscular, urinary, gastrointestinal, sweat glands, etc) often with adverse consequences.³⁹

The model number two predicts the Irritable Bowel Syndrome by depression with stress, Multiple regression equation of the model:

Dependent Variables (Irritable Bowel Syndrome)= Constant+ B for (Depression) x value Depression +B for stress x value of stress (Table 5).

Example: if it is assumed that one Irritable Bowel Syndrome patient received a score of 60 on the Depression scale and received a score of 54, her/his score of Irritable Bowel Syndrome will = 11.192

$$=11.192+0.515x60+0.397x54$$

$$=11.192+30.9+21.438$$

$$=63.53$$

Table 1 Correlation coefficient and statistical significance between motivation Irritable Bowel Syndrome and the Anxiety for The study sample

Variables	Depression	Significance
Irritable Bowel Syndrome	0.379	0.01

Table 2 Correlation coefficient and statistical significance between Irritable Bowel Syndrome and the Anxiety

Variables	Anxiety	Significance
Irritable Bowel Syndrome	0.337	0.01

Table 3 Correlation coefficient and statistical significance between Irritable Bowel Syndrome and the stress

Variables	Stress	Significance
Irritable Bowel Syndrome	0.360	0.01

Table 4 Model of regression coefficient and gradual prediction of Irritable Bowel Syndrome by depression

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	25.782	8.507		3.031	.000
Depression	0.581	0.172	0.379	3.379	.000

Table 5 Model of regression coefficient and gradual prediction of Irritable Bowel Syndrome by depression with stress

Mode2	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	11.192	9.485		1.180	.000
Depression Stress	0.515	0.165	0.337	3.132	.000
	.397	0.136	0.314	2.927	.000

This result indicates that stress and depression predict IBS, Stress and depression were independent risk factors for FD and IBS in our large-scale population-based study, and this finding was consistent with that in several previous studies. This association is probably derived from mutual and reciprocal interactions between the brain and the gut. Corticotrophin releasing hormone (CRH), a major mediator of the stress response in the brain-gut axis, can increase intestinal permeability and lead to FD and IBS. In addition, serotonin and the serotonin transporters, which assist the modulation of feelings and behavior such as anxiety and depression, can be associated with brain-gut function in functional GI disorders.⁴⁰

The researcher believes that irritable bowel disorder one of the results of stress and depression is because all of the stress and depression are considered cases of instability and loss of balance and therefore man in that case is seeking to make the process of adaptation in order to maintain psychological balance and therefore, depression and stress of the predictors of IBS as the irritable bowel disorder, in fact, is not troubled organically but it is a case of transforming emotional energy into physical symptoms.

The negative affective and emotional states, such as anger, have

been shown to be related to a decrease of antral motor activity in IBS patients, whereas in controls the same activity increased in anger-provoking situations. Intestinal motility patterns may suffer emotional stimulation and, particularly, an exaggerated gastrocolic reflex, altered gastric emptying, increased small intestinal transit and small bowel contractions following stressful events have been documented in IBS patients⁸.The proposed rationale for this vulnerability is that IBS patients may have a lower threshold for coping with stressful events and negative emotions, however, regarding defensiveness.⁴¹⁻⁴⁸

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Conflicts of interest

Author declares there are no conflicts of interest.

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