Welcome to the IBD Nurse Fellowship Program!

The program consists of 13 modules:

Module 1 – Ulcerative Colitis
Module 2 – Crohn's Disease
Module 3 – Ulcerative Colitis vs. Crohn's Disease
Module 4 – Management of Ulcerative Colitis
Module 5 – Management of Crohn's Disease
Module 6 – IBD and Surgery
Module 7 – Medication Adherence in IBD
Module 8 – Health Promotion and Maintenance in IBD
Module 9 – Nutrition and IBD
Module 10 – Extra-intestinal Manifestations of IBD
Module 11 – Anemia in IBD
Module 12 – Fatigue in IBD
Module 13 – Anxiety and Depression in IBD

Each module is divided into sections, all of which are listed in the Table of Contents. The Table of Contents allows you to click on the page numbers to navigate to each section. Each page has a Home Button on the bottom right-hand corner that will take you back to the Table of Contents.

The learning objectives are at the beginning and end of each module. Before completing the module, you will have the opportunity to take a self-directed quiz, which will test your knowledge on several of the key concepts and takeaways from the module. It is recommended that you take the quiz and accomplish all of the learning objectives before moving on to the next module.

This program is supported through an educational grant from janssen

IBD nurse fellowship PROGRAM

csgna
Canadian Society of Gastroenterology Nurses & Associates
Société canadienne des infirmières et infirmiers en gastroentérologie et travailleurs associés

CANIBD
Canadian Nurses IBD Group

Module 13

Anxiety and depression in IBD

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Table of contents

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Learning objectives

After completing Module 13 you will be able to:

- Explain the impact of psychological factors in patients with inflammatory bowel disease (IBD)
- List the symptoms of anxiety disorder and depression
- Discuss the screening tools used to evaluate anxiety and depression in patients with IBD
- Outline the different pharmacologic and non-pharmacologic treatment options available for psychological disorders in patients with IBD
- Describe the best way to detect, evaluate and manage patients with IBD who have psychological disorders

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Section 1

Psychological factors in IBD

Psychological factors in IBD

- The role of psychological factors in inflammatory bowel disease (IBD) has a long and complicated history
  - In the 1930s, it was believed that stress *caused* IBD, which was considered a psychosomatic disorder*
  - Later on, IBD was re-conceptualized as an organic disease and the role of psychological factors in the disease was completely dismissed
- IBD is currently understood to relate to the complex interaction between genetic and environmental variables resulting in an intestinal inflammatory response in vulnerable individuals
- Although there is no clear evidence that psychological factors *cause* IBD today, they do play a role in the course of the disorder, such as triggering and exacerbating symptom flare-ups
- Research on the role of psychological factors in IBD has largely focused on anxiety, depression and stress

*A psychosomatic disorder is a disorder that could be fully explained by psychological factors

Keefer et al., 2008; Drossman & Ringel, 2004; Graff et al., 2009

Anxiety, depression and IBD

- Both Crohn's disease and ulcerative colitis are associated with higher rates or elevated symptoms of anxiety and depression
- Anxiety and depression symptoms appear to be especially elevated during symptom flare-ups
  - Prevalence in patients with IBD is estimated to be 29-35% when IBD symptoms are in remission and up to 80% for anxiety and 60% for depression during flare-ups
- Most studies examining anxiety and depression in IBD focus on self-reported symptoms rather than clinician-assessed psychiatric diagnoses
  - Numerous studies have found that patients with IBD self-report significantly higher rates of anxiety and depression symptoms compared to healthy controls
  - Stress was identified by 90% of patients to be a significant factor that contributes to a worsening of their symptoms

Anxiety and depression symptoms are elevated in patients with IBD

IBD, inflammatory bowel disease.

Addolorato et al., 1997; Mittermaier et al., 2004; Graff et al., 2009; Kovacs & Kovacs, 2007.

Anxiety disorders and IBD

- The few studies that have examined psychiatric diagnoses in patients with IBD have also shown higher rates of anxiety disorders and major depressive disorder
- Abnormal anxiety levels are found in up to 40% of patients with IBD
- Studies using structured clinical interviews have found that:
  - The lifetime prevalence of major depressive disorder in Canadian patients with IBD was approximately twice that of the general population (27% versus 12%)
  - The 12-month prevalence rate of major depressive disorder in patients with IBD was between 14-16%
  - The rates of panic disorder and generalized anxiety disorder are twice as high in patients with IBD compared to the general population

The 12-month prevalence rate for depression in the general population is between 4-5%

Most likely, there is a bi-directional relation between symptoms of IBD and symptoms of anxiety and depression

IBD, inflammatory bowel disease.

Fuller-Thomson & Sulman 2006; Fuller-Thomson et al., 2015; Walker et al., 2008.

Definition of anxiety disorders

- According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatry Association, 2013), there are 11 disorders that fall into the category of anxiety disorders:
  - Separation anxiety disorder
  - Selective mutism
  - Specific phobia
  - Social anxiety disorder
  - Panic disorder
  - Agoraphobia
  - Generalized anxiety disorder
  - Substance/medication-induced anxiety disorder
  - Anxiety disorder due to another medical condition
  - Other specified anxiety disorder
  - Unspecified anxiety disorder
- There are also a number of other anxiety-related disorders that are found in other categories of the DSM-5, including:
  - Posttraumatic stress disorder
  - Obsessive compulsive disorder
  - Illness anxiety disorder

Craske et al., 2009.

Anxiety disorder

- Anxiety disorder (AD) is defined as a feeling of unease, worry, and/or fear that patients are unable to control
  - Anxiety can be mild or severe, and last for a period of at least 6 months
- The most common anxiety disorder is generalized anxiety disorder (GAD)
- This is characterized by excessive anxiety and worry most days that interferes with function
  - Patients find it difficult to control the worry
  - Patients feel restless, fatigued, have trouble concentrating, feel irritable and tense
- Key questions to ask to detect GAD include:
  - “Have you been having problems with anxiety, worry or stress?”
  - “Have you been feeling nervous, jittery, or tense most of the time?”
  - “Do you find it difficult to control your worry?”

Andrews et al., 2010; Bannaga et al., 2015; Graff et al., 2009; Berle et al., 2011.

Symptoms of anxiety

- Symptoms of anxiety include:
  - Feeling nervous or on edge
  - Excessive worrying about everyday things
  - Sense of impending doom or panic
  - Sense of powerlessness or loss of control
  - Muscle tension
  - Heart racing
  - Shaking
  - Sweating
  - Difficulties breathing
  - Difficulties concentrating as a result of the anxiety and/or worry

Bannaga et al., 2015.

Depression

- Depression can be described as a despondent mood and/or loss of interest or pleasure in life activities, with clinically significant impairment in social, work, or other important areas of functioning
- Key questions to ask to detect depression include:
  - “On a scale where 0 = “down and hopeless” and 10 = “good mood”, how would you rate your mood during the past week?”
  - “Do you feel depressed or down most of the day?”
  - “Have you found that you’ve lost interest or enjoyment in most things?”

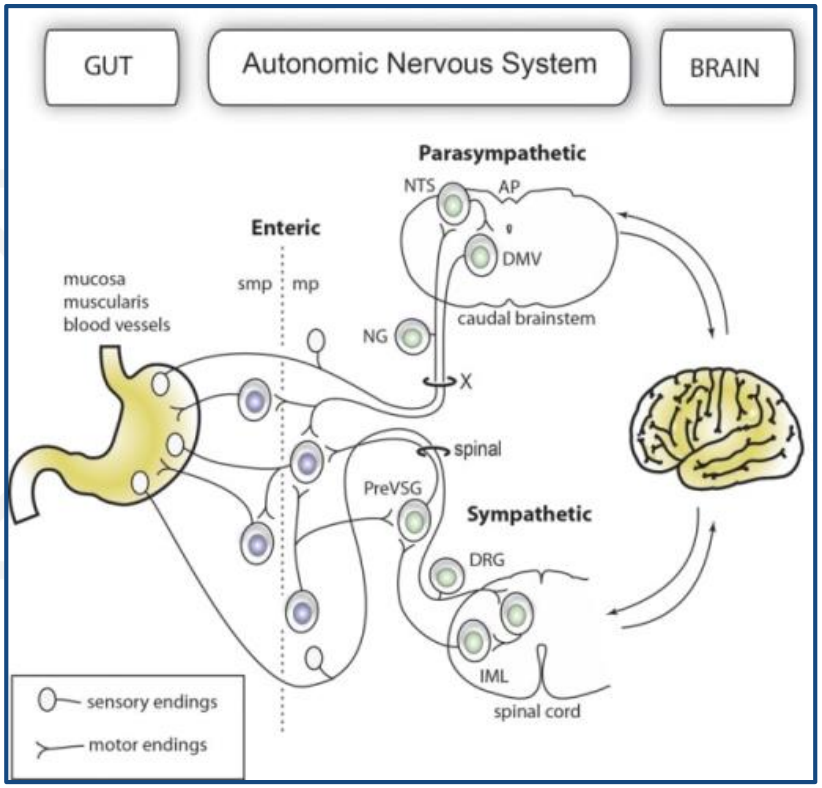
American Psychiatric Association, 2013; Graff et al., 2009; Berle et al., 2011.

Symptoms of depression

- Depression is characterized by:
  - Low mood
  - Loss of interest
  - Changes in appetite (i.e., either eating less than usual or more than usual)
  - Weight loss or weight gain
  - Changes in sleeping patterns (i.e., either sleeping less than usual or more than usual)
  - Fatigue
  - Psychomotor agitation or retardation
  - Feelings of worthlessness
  - Feelings of inappropriate guilt
  - Difficulties concentrating
  - Difficulties making decisions
  - Feelings of hopelessness
  - Thoughts about death or suicide

American Psychiatric Association, 2013.

The gut-brain axis



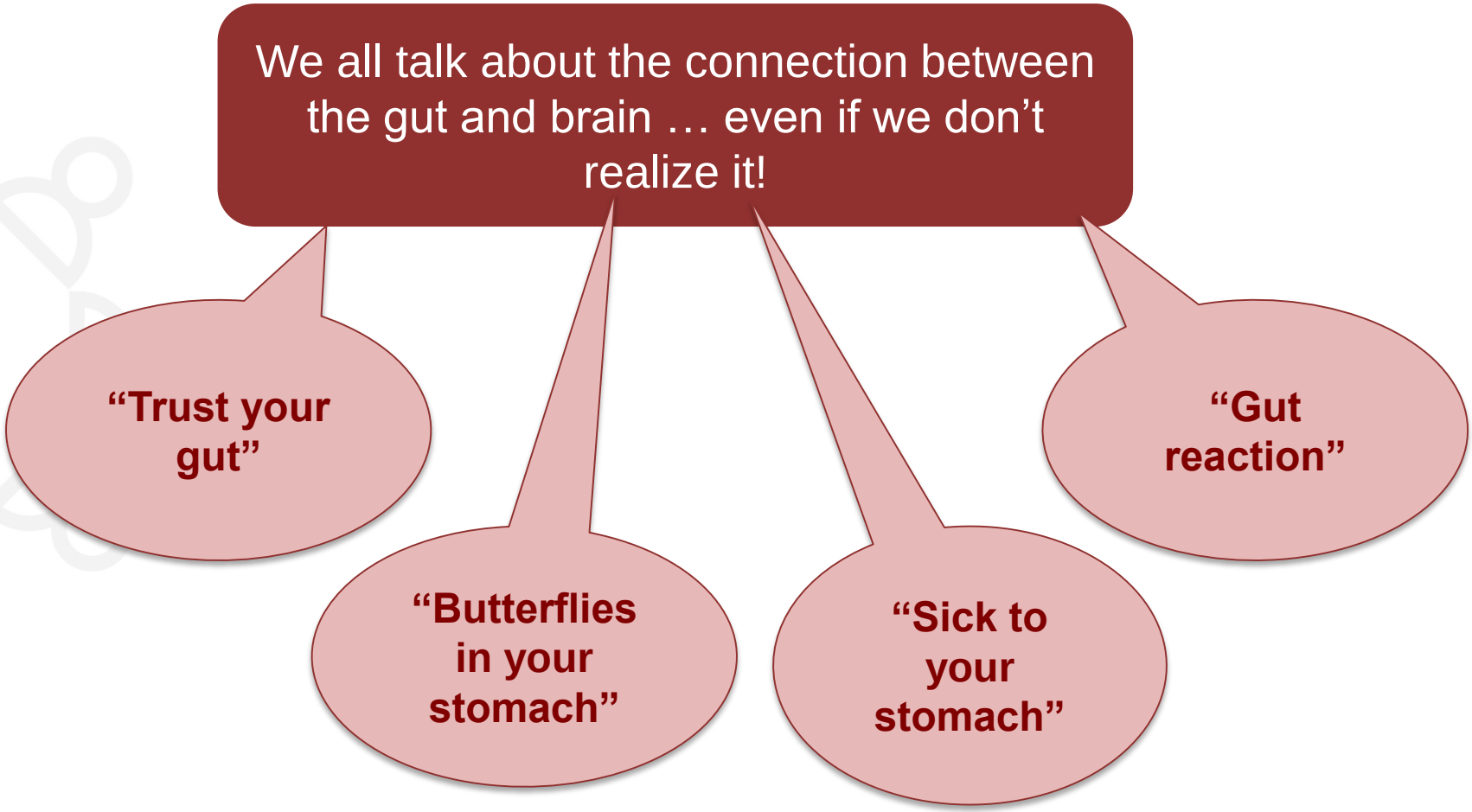
Simplified organization of the gut-brain axis

- The gut and the brain are intimately connected by multiple signaling pathways:
  - Hormonal
  - Neuronal
  - Inflammatory
- Via these pathways:
  - Inflammation in the gut can trigger changes in the brain
  - Stress, anxiety and depression can cause changes in the gut

Collins et al., 2012.

Image source: https://openi.nlm.nih.gov/detailedresult.php?img=3728986_fnins-07-00134-g0001&query=gut+brain+axis&lic=by&req=4&npos=1. Copyright © Udit & Gautron, 2013; licensee BioMed Central Ltd.

The gut-brain axis



Course of anxiety and depression in IBD

- A number of different pathways for the relationships between IBD and psychological stress, anxiety and depression have been proposed
  - Symptoms of psychological stress, anxiety, and depression may be secondary to suffering from IBD
  - Stress and anxiety symptoms may exacerbate symptoms of IBD and lead to symptom flare-ups by changing GI motor and sensory functioning and intestinal permeability
  - Anxiety and depression symptoms may be secondary to some of the medication treatments that patients with IBD receive (e.g., corticosteroids)

The chronic and unpredictable course of IBD and negative impact of IBD on quality of life may place patients at increased risk for developing anxiety and/or depression

This phenomenon is hypothesized to occur through the gut-brain axis

GI, gastrointestinal; IBD, inflammatory bowel disease.

Sajadinejad et al., 2012.

Section 2

Management of anxiety and depression

Management of psychological disorders in IBD

Why consider stress, anxiety and depression symptoms in the management of IBD?

- Even when anxiety and depression symptoms do not meet clinical cutoffs to be diagnosed as psychiatric disorders, the presence of these symptoms have been associated with:
  - Poorer health-related quality of life (QoL)
  - More symptom flare-ups and increased exacerbation of IBD symptoms during the course of the disease
  - Poorer treatment adherence
- Recently published treatment guidelines for IBD underscore the importance of screening for psychosocial factors and providing treatment as necessary
- A number of pharmacological and non-pharmacological treatments for anxiety and depression symptoms in patients with IBD have been investigated

Decline in QoL occurs even when controlling for the severity of IBD symptoms

IBD, inflammatory bowel disease.

Prasko et al., 2010; Vidal et al., 2008; Zhang et al., 2015; Mardini et al., 2004; Mittermaier et al., 2004; Persoons et al., 2005; Gray et al., 2012; Kane, 2006; Nahon et al., 2011; Häuser et al., 2014.

Screening for anxiety and depression symptoms

- A number of brief screening measures are available that can be used to assess elevations in symptoms of anxiety and depression, including:
  - Hospital Anxiety and Depression Scale
  - 5-item Anxiety and Depression Detector
  - Luebeck Interview for Psychosocial Screening in Patients with IBD
- These screening measures take between 5 to 10 minutes to administer
- In addition to using formal screening measures, a number of probing questions can also be asked to assess for anxiety and depression symptoms in patients with IBD

If symptoms of anxiety and depression are detected, patients should receive treatment for their symptoms. In each patient, pharmacological and non-pharmacological options (when available) alone or together should be considered, and the most ideal treatment pursued

IBD, inflammatory bowel disease.

Zigmond & Snaith, 1983; Means-Christensen et al., 2006; Kunzendorf et al., 2007.

Probing for anxiety and depression

- Probing questions include:
  - “Have you been experiencing any difficulties with anxiety, worry, or stress?”
  - “Have you been feeling nervous, jittery, or tense most of the time?”
  - “On a scale where 0 = “down and hopeless” and 10 = “good mood”, how would you rate your mood during the past week?”
  - “Do you feel depressed or down most of the day?”
  - “Have you found that you’ve lost interest or enjoyment in most things?”
- Follow-up questions to assess severity and persistence of symptoms include:
  - “When did these difficulties start?”
  - “How long have they been occurring?”
  - “Have these symptoms interfered with your functioning in your every day life (e.g., work attendance, home and family responsibilities)?”
  - “Are these difficulties having an impact on your IBD symptoms?”

IBD, inflammatory bowel disease.
Graff et al., 2009

Recommended steps for managing depression and anxiety in IBD

1. Screen

Assess all patients with IBD for symptoms of depression or anxiety

2. Treat

If elevations in depression and anxiety are detected and these are impairing daily functioning and/or impacting IBD symptoms, then speak with patients about pharmacological and non-pharmacological treatment options

3. Follow up

Provide appropriate referrals if needed (e.g., psychiatrist, psychologist, social worker, mental health worker)

IBD, inflammatory bowel disease.

Zigmond & Snaith, 1983; Means-Christensen et al., 2006; Kunzendorf et al., 2007.

Section 3

Treatment options for anxiety and depression

Pharmacological treatments for psychological factors

- IBD patients generally are responsive to pharmacological treatment for anxiety and depression, but unfortunately there have not been adequate randomized controlled trials to specifically guide treatment in this population
  - There is positive effect on disease activity in the majority of the reports, which primarily involved use of the antidepressants paroxetine or bupropion
  - Newer-generation antidepressants (SSRIs, SNRIs) currently in widespread use are better tolerated than the previous generation of tricyclic antidepressant medications and monoamine oxidase inhibitors
- Despite improvements, studies in primary care settings suggest that many patients do not fill their first prescription
  - Of those who do, 40%-50% discontinue treatment within the first weeks or months due to side effects, thereby limiting treatment effectiveness
- Ideally, pharmacological treatment is initiated and monitored by the family physician or a psychiatrist, or in collaboration with psychiatry or the family physician

Many recommendations state that medication treatment should continue for at least one year

IBD, inflammatory bowel disease; SNRIs, serotonin and norepinephrine reuptake inhibitors; SSRIs, selective serotonin reuptake inhibitors.

Graff et al., 2009.

Antidepressants

Type of antidepressant	Examples	Side effects
Tricyclic antidepressants (TCAs)	• Amitriptyline • Imipramine • Doxepin • Desipramine • Nortriptyline	Sedation, constipation, dry eyes/mouth, weight gain, hypotension, sexual dysfunction **CAUTION** – can be fatal in overdose so risk assessment is required and cardiac side effects need to be considered prior to prescribing
Selective serotonin re-uptake inhibitors (SSRIs)	• Fluoxetine • Sertraline • Fluvoxamine • Paroxetine • Citalopram • Escitalopram	Insomnia, diarrhea, night sweats, agitation, sexual dysfunction, upper GI bleeding, osteoporosis, possible increased risk of suicide, QT prolongation (citalopram)
Serotonin and norepinephrine re-uptake inhibitors (SNRIs)	• Duloxetine • Venlafaxine	Nausea, agitation, dizziness, fatigue, liver dysfunction (duloxetine), hypertension (venlafaxine)
Monoamine-oxidase inhibitors (MAOIs)	• Isocarboxazid • Phenelzine • Tranylcypromine	Significant side effect burden: dizziness, postural hypotension, headache, anticholinergic effects
Norepinephrine and dopamine reuptake inhibitor	• Bupropion	Headaches, tremor, anxiety
Noradrenergic and specific serotonergic antidepressant	• Mirtazapine	Sedation and weight gain

GI, gastrointestinal.

Jain et al., 2004; Nash & Nutt, 2007.

Tips for selecting antidepressants

- SSRIs generally cause diarrhea but can still be tolerated in many IBD patients
  - Escitalopram is often prescribed due to its favourable side effect profile and limited drug-drug interactions
  - Generally sertraline should be avoided as it causes the most GI side effects
- If a patient has difficulty tolerating SSRIs as a result of diarrhea, TCAs can be helpful as they promote constipation
  - TCAs need to be used with caution given the risks of bowel obstruction as well as cardiac risks and risks of overdose
- Patients with significant pain and anxiety/depression may benefit from duloxetine which is also indicated for chronic pain
- In GI patients particular attention should be given to the risk of upper GI bleeding with SSRIs

IBD, inflammatory bowel disease; GI, gastrointestinal; SSRIs, selective serotonin reuptake inhibitors; TCAs, tricyclic antidepressants.

Anglin et al., 2014; Leo & Barkin, 2003; Nash & Nutt, 2007; Fergusen et al., 2001.

Side effects of pharmacological therapy

- Patients are able to manage side effects or tolerate therapy during the initiation of treatment if they are aware of the potential side effects, as well as the potential benefits of persisting until they have adapted to the medication
  - GI side effects can be of particular concern to the IBD patient, and have been reported with many of the antidepressant medications
- Side effects are generally dose-related and tend to decrease over the first weeks of treatment, and may include:
  - Nausea and vomiting
  - Diarrhea
  - Decreased sexual functioning
- Side effects that may be problematic when patients decide to discontinue antidepressant medication early in the course of treatment include drowsiness/fatigue, anxiety, headache, insomnia, and dizziness

Patients with IBD may experience disease-related difficulties with sexual intimacy

Patients are often better able to manage side effects during treatment if they are aware of both the potential side effects, as well as the potential benefits of persisting, until they have adapted to the medication

GI, gastrointestinal; IBD, inflammatory bowel disease.

Graff et al., 2009.

Key considerations for pharmacological therapy

- **Customize**: Explore medication options that are familiar to the physician and best match with patient concerns (e.g., cost and side effects)
- **Educate:** Explain treatment details to the patient, such as:
  - Expected clinical benefit delay of at least 2-4 weeks after start of treatment
  - Potential side effects, particularly GI, sexual functioning, and weight gain effects
  - Potential transient nature of the side effects
- **Treat:** Initiate treatment, gradually increasing dose to therapeutic level
- **Follow up:** Schedule brief appointments during first weeks of treatment to facilitate:
  - Dose or medication type adjustments
  - Monitoring of side effects
  - Encouragement of patient persistence

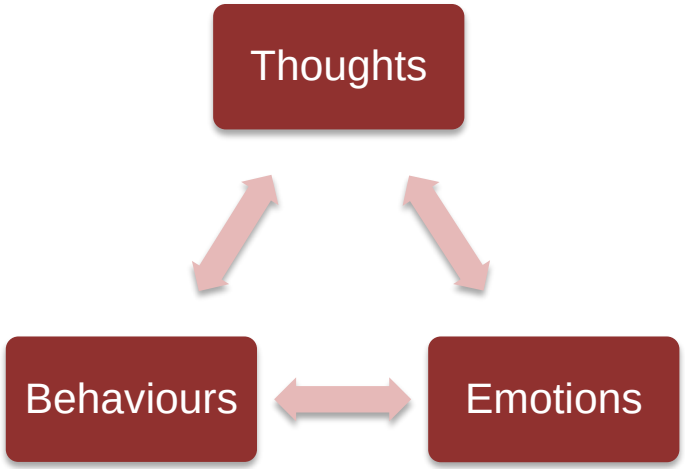
Follow-up can also be facilitated through phone calls with clinic nurse

- **Persevere:** Continue treatment long-term if there is a positive response to ensure maintenance of treatment gains

GI, gastrointestinal.
Graff et al., 2009.

Non-pharmacological treatments for psychological factors

- Although the research on non-pharmacological treatments for patients with IBD is still in its infancy, the research to date has provided the most empirical evidence for cognitive behaviour therapy
- Cognitive behaviour therapy is a short-term (i.e., 12 to 16 sessions) treatment that focuses on the relation between thoughts, behaviours, and emotions
- Cognitive behaviour therapy provides strategies to manage symptoms of anxiety and depression, including:
  - Identifying and modifying unhelpful thinking patterns
  - Decreasing behavioural avoidance
  - Increasing engagement in activities that provide pleasure and mastery (for depression)



IBD, inflammatory bowel disease.
Knowles et al., 2013.

Cognitive behaviour therapy for patients with IBD

- Research on the effectiveness of cognitive behaviour therapy for patients with IBD is in the early stages
- Studies done to date have shown promising findings for the effectiveness of cognitive behaviour therapy for patients with IBD
- Specifically, studies have consistently shown that:
  - Cognitive behaviour therapy is effective in reducing symptoms of anxiety and depression in patients with IBD
  - There are mixed findings on the effectiveness of cognitive behaviour therapy in modifying the course of IBD and improving health-related quality of life

IBD, inflammatory bowel disease.
Knowles et al., 2013

Section 4

Self-assessment quiz

Self-assessment quiz

- Now that you have reviewed the module content, you have the opportunity to test your knowledge and understanding of the material by completing a self-assessment
- The assessment consists of 5 multiple choice questions
- Please attempt each question before looking at the answer key, which is located on page 37
- The answer key provides the rationale for each answer and indicates where the correct answer can be found in the module

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Question 1

Which of the following symptoms is characteristic of both anxiety and depression?

a) Sense of impending doom or panic

b) Difficulty concentrating

c) Psychomotor agitation or retardation

d) Sense of powerlessness or loss of control

Question 2

Which of the following is true regarding the connections between the gut and the brain?

a) Stress, anxiety and depression can cause changes in the gut

b) Inflammation in the gut can trigger changes in the brain

c) Stress, anxiety and depression have no impact on the gut

d) Both a) and b)

Question 3

Which of the following is a common proposal for the relationship between IBD and anxiety and depression?

a) Anxiety and depression symptoms may be secondary to some of the medication treatments that IBD patients receive

b) Symptoms of psychological stress, anxiety, and depression may be secondary to suffering from IBD

c) Stress and anxiety symptoms may exacerbate symptoms of IBD and lead to symptom flare-ups

d) All of the above

Question 4

Which of the following is a follow-up probing question that can be asked to assess severity and persistence of anxiety and depression symptoms?

a) “Have you been experiencing any difficulties with anxiety, worry, or stress?”

b) “Have you found that you have lost interest or enjoyment in most things?”

c) “Have these symptoms interfered with your functioning in your every day life?”

d) “Have you been feeling nervous, jittery, or tense most of the time?”

Question 5

If a patient has difficulty tolerating selective serotonin reuptake inhibitors as a result of diarrhea, which antidepressant can be offered as an alternative?

a) Duloxetine

b) Amitriptyline

c) Isocarboxazid

d) Bupropion

Answer key

1. **The correct answer is b.** Difficulty concentrating is a symptom of both anxiety and depression. See pages 11 & 13 for more information on this topic.

2. **The correct answer is d.** Inflammation in the gut can trigger changes in the brain, while stress, anxiety and depression can cause changes in the gut. See page 14 for more information on this topic.

3. **The correct answer is d.** All suggestions listed have been proposed. See page 16 for more information on this topic.

4. **The correct answer is c.** “Have these symptoms interfered with your functioning in your every day life?” is a follow-up question to assess severity and persistence of symptoms. See page 20 for more information on this topic.

5. **The correct answer is b.** Amitriptyline, a tricyclic antidepressant (TCA), can be offered as an alternative to selective serotonin reuptake inhibitors in patients experiencing diarrhea, as TCAs promote constipation. See pages 24 & 25 for more information on this topic.

Congratulations!

You have completed the 13th module of the program.

Based on what you learned in Module 13, you should be able to:

- Explain the impact of psychological factors in patients with inflammatory bowel disease (IBD)
- List the symptoms of anxiety disorder and depression
- Discuss the screening tools used to evaluate anxiety and depression in patients with IBD
- Outline the different pharmacologic and non-pharmacologic treatment options available for psychological disorders in patients with IBD
- Describe the best way to detect, evaluate and manage patients with IBD who have psychological disorders

If you have answered the quiz questions correctly and achieved the learning objectives, you have now completed the learning module portion of IBD Nurse Fellowship Program.

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