

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.



IBD nurse
fellowship
PROGRAM

csna*

Canadian Society of Gastroenterology Nurses & Associates
Société canadienne des infirmières et infirmiers en gastroentérologie et maladies associées



Module 7

Medication adherence in IBD

Table of contents



Learning objectives	Page 4
Section 1 – Medication adherence.....	Page 5
Section 2 – Factors affecting adherence.....	Page 13
Section 3 – Strategies to improve adherence.....	Page 19
Section 4 – Self-assessment quiz.....	Page 23
References	Page 32

Learning objectives



After completing Module 7 you will be able to:

- Outline the fundamental concepts of medication adherence and its importance in IBD management
- Identify key contributing factors to non-adherence
- Encourage individuals living with IBD to make informed choices regarding therapy through discussions of preference and adherence
- Describe ways in which adherence can be improved
- Employ different techniques for empowering people living with IBD to take a more active role in their treatment





Section 1

Medication adherence



Medication adherence in IBD

- Inflammatory bowel diseases (IBD) are chronic conditions requiring medication throughout life
- Adherence to prescribed drugs is crucial to IBD management
 - Associated with a disease improvement and reduced risk of colorectal cancer
 - Declining adherence contributes to relapsing disease and treatment failures
- Many patients are non-adherent to their prescribed treatment regimen

40–60%

of IBD patients are non-adherent with their prescribed medical therapies

- Non-adherence behaviours include:
 - Failure to take some or all prescribed doses of a given medicine
 - Overconsumption
 - Disrupted timing of the doses
 - Discrepant behaviour with respect to the doctor's suggestions



Key concepts in medication adherence

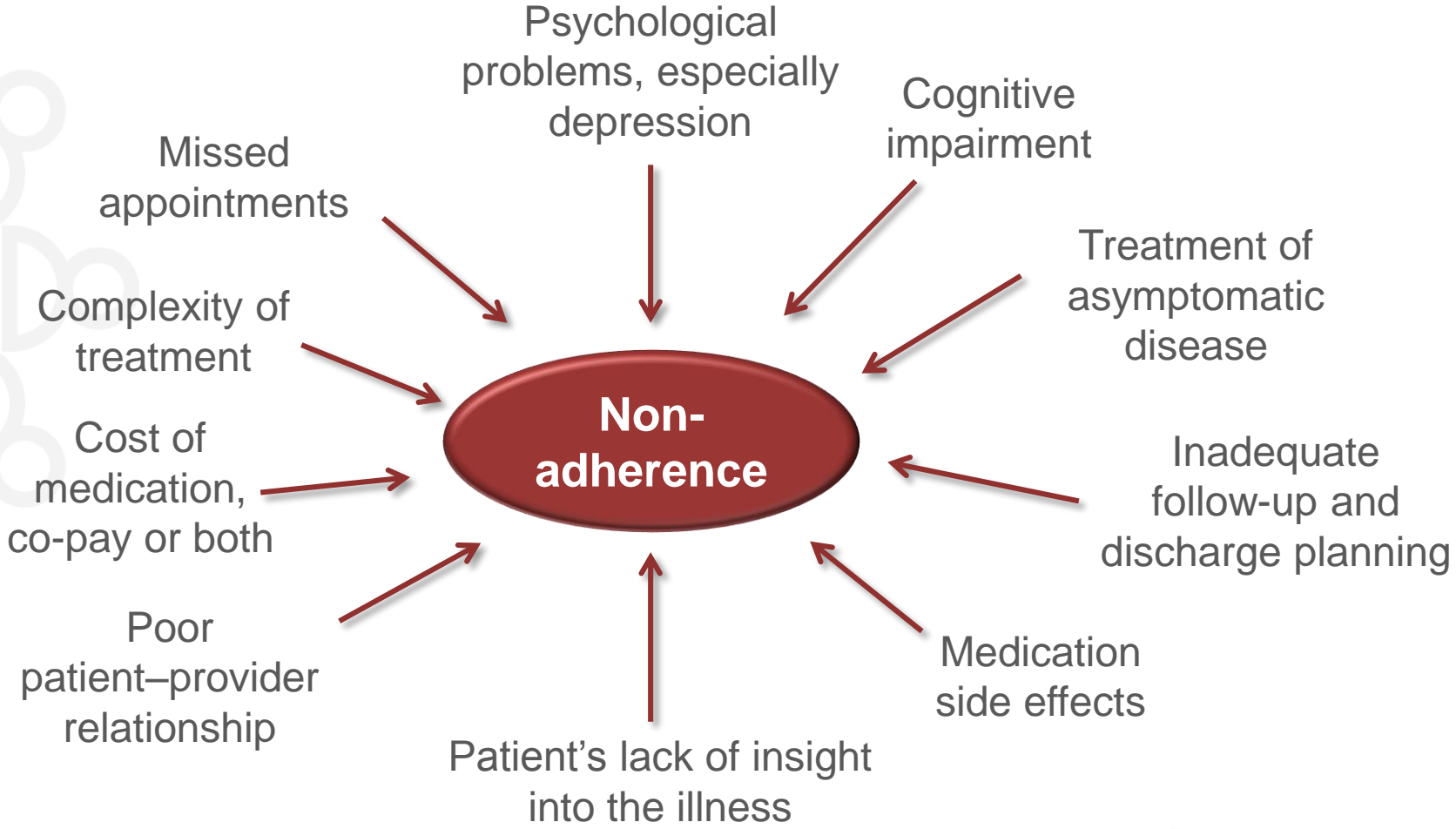
- **Adherence:** the extent to which the patient's behaviour matches the agreed recommendations from the prescriber
- **Non-adherence:** failure by patients to undertake activities or follow treatment recommendations made by health service providers
- **Compliance:** the extent to which the patient's behaviour matches the prescriber's recommendations

Adherence may give a better indication of the dynamic between patient and doctor than **compliance**, and sees treatment as an alliance between the two rather than a one-way relationship

- **Persistence:** continued adherence over time to the prescribed medication
- **Concordance:** two-way relationship between patient and physician, where treatment decisions are discussed and the treatment of choice is most acceptable to both parties

Traditional model of adherence

- Adherence depends on a wide variety of factors and no single factor predominates

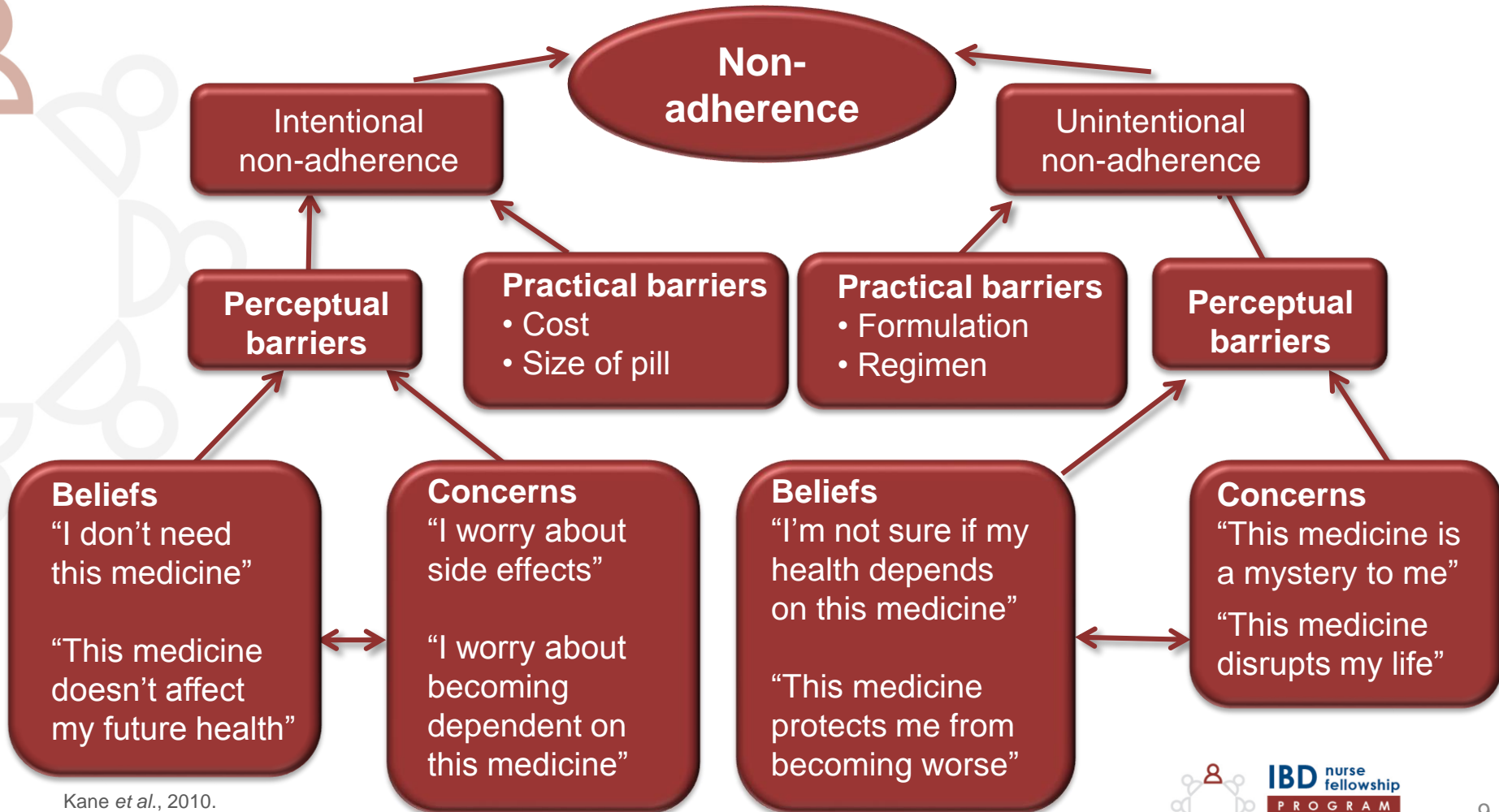


Kane et al., 2010.



Emerging model of adherence

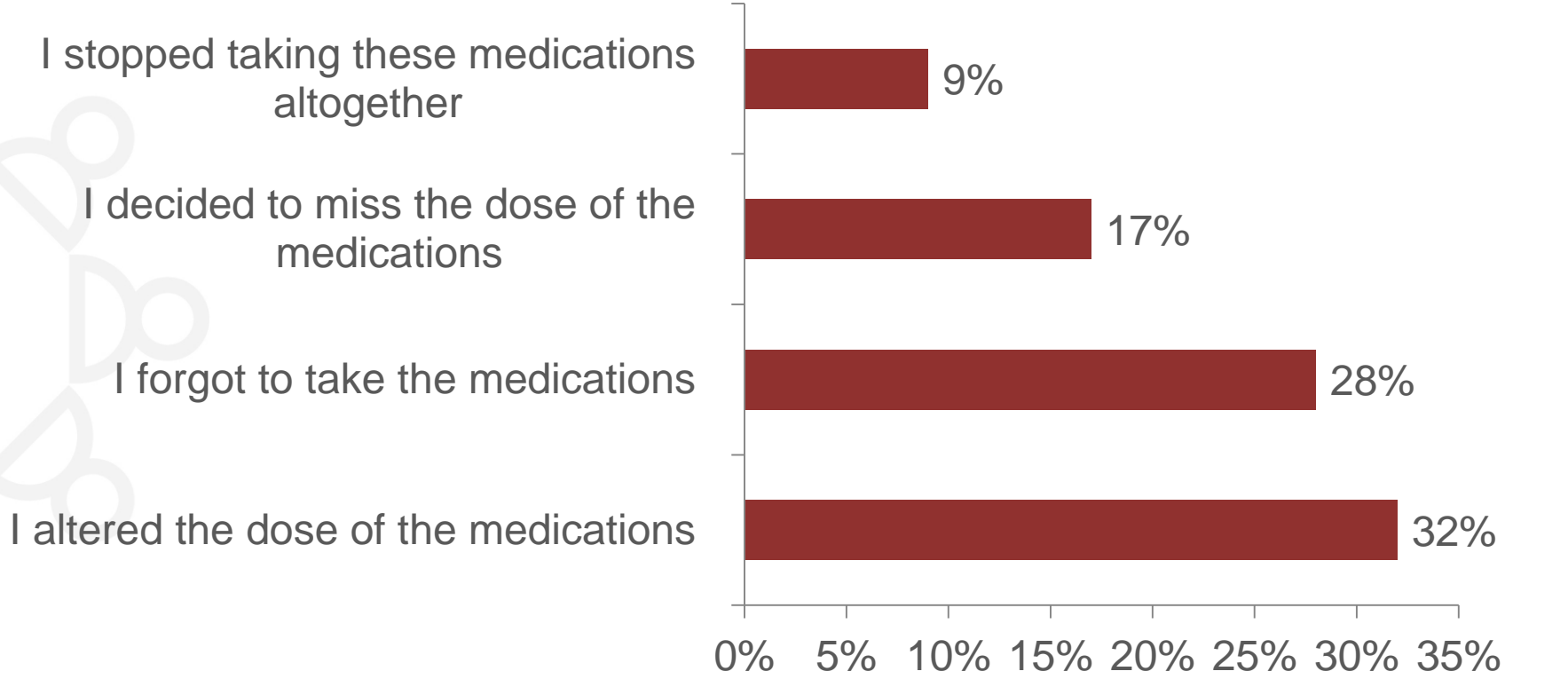
- Non-adherence can be divided into intentional and unintentional types, both influenced by practical and perceptual barriers



Kane et al., 2010.



Unintentional and intentional patient behaviours



Non-adherence can be explained by intentional and unintentional behaviours

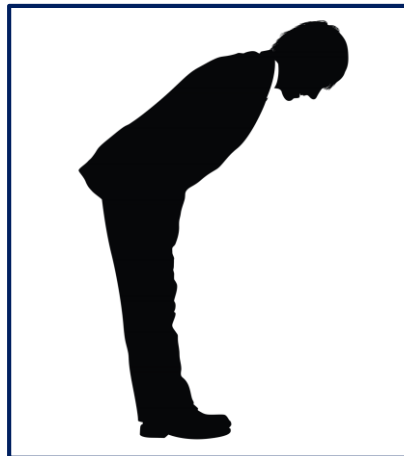
*Questionnaire of 1871 members of the National Association for Colitis and Crohn's; 49% had UC, 45% CD and 6% other colitis. Horne *et al.*, 2009.



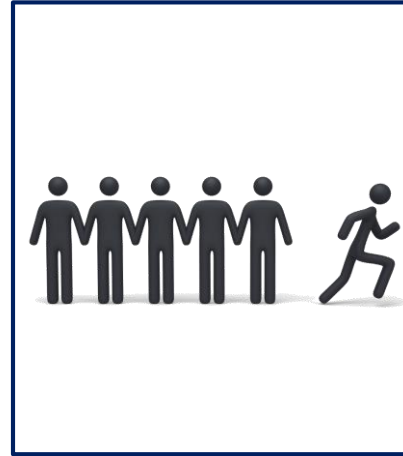
Types of patient behaviour in medication adherence



Gamblers are aware of the potential benefits of medication, but often take a chance that they will come to no harm if medication is missed



Teachers' pets are likely to do what their physician asks them to do



Rebels will do the exact opposite of what is requested



Distractibles are often preoccupied and forget to do the things they have been asked



The consequences of non-adherence

- **Consequences for patients**

- Decline of health
- Increased risk of disease flare-up
- Increased morbidity and mortality

Non-adherence to prescribed long-term therapy of chronic conditions has been associated with a **2- to 3-fold increased risk of disease flare-ups**

- **Consequences for the healthcare system**

- Wasted resources
- Increased use of services
- Increased hospital admissions

In the US, non-adherence to prescribed long-term therapy of chronic conditions has been estimated to cost **\$100 billion annually** and account for 10% of hospital admissions



Section 2

Factors affecting adherence



Factors associated with extent of adherence in IBD

- Relationship between HCP and patient
- Treatment regimen
- Disease-related factors
 - Remission
 - Severity of symptoms
 - Concomittant diseases
 - Disease duration
- Individual-specific factors
 - Personal demands and responsibilities
 - Financial factors
 - Patient's perception about need for therapy
 - Concerns about adverse effects
 - Age
 - Gender

UC diagnosis has been associated with a higher risk of non-adherence

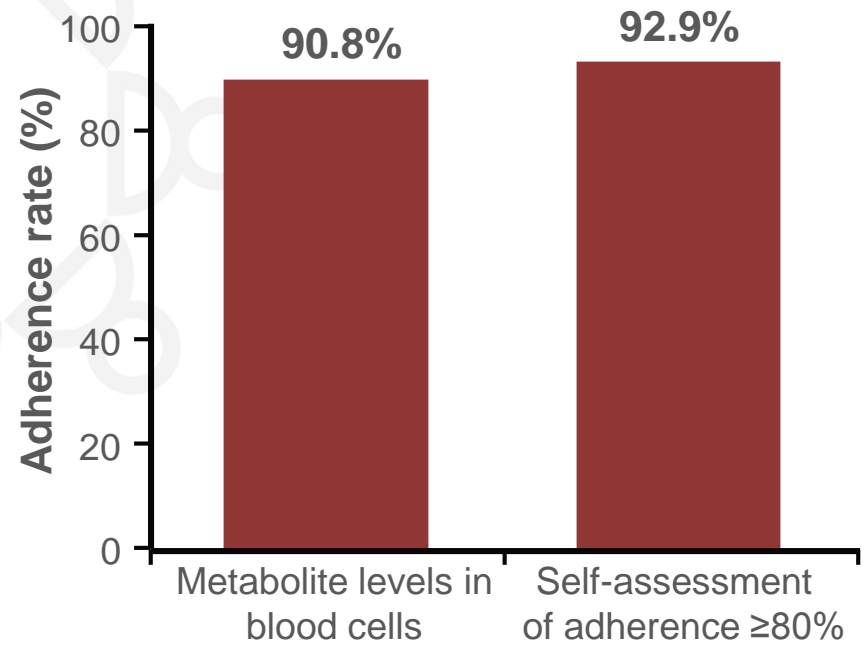
Younger individuals and males have been associated with a higher risk of non-adherence

HCP, healthcare provider.

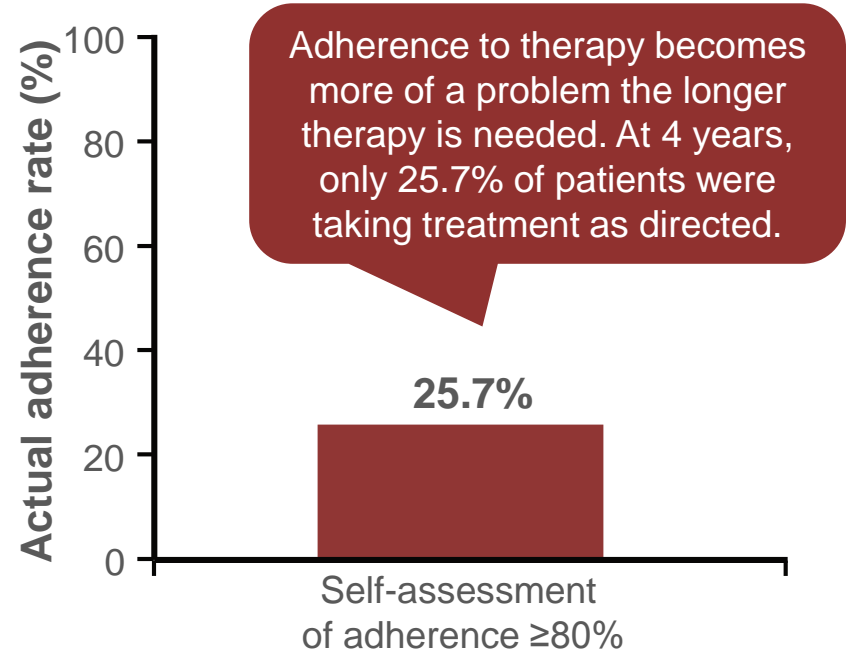
Kane *et al.*, 2003; Feagins *et al.*, 2014; Ediger *et al.*, 2007; Horne *et al.*, 2013

Longer disease duration affects non-adherence

Adherence rates to AZA/MP at **3 months** in patients with Crohn's disease (N=65)



Adherence rates to AZA at **4 years** in patients with Crohn's disease (N=28)

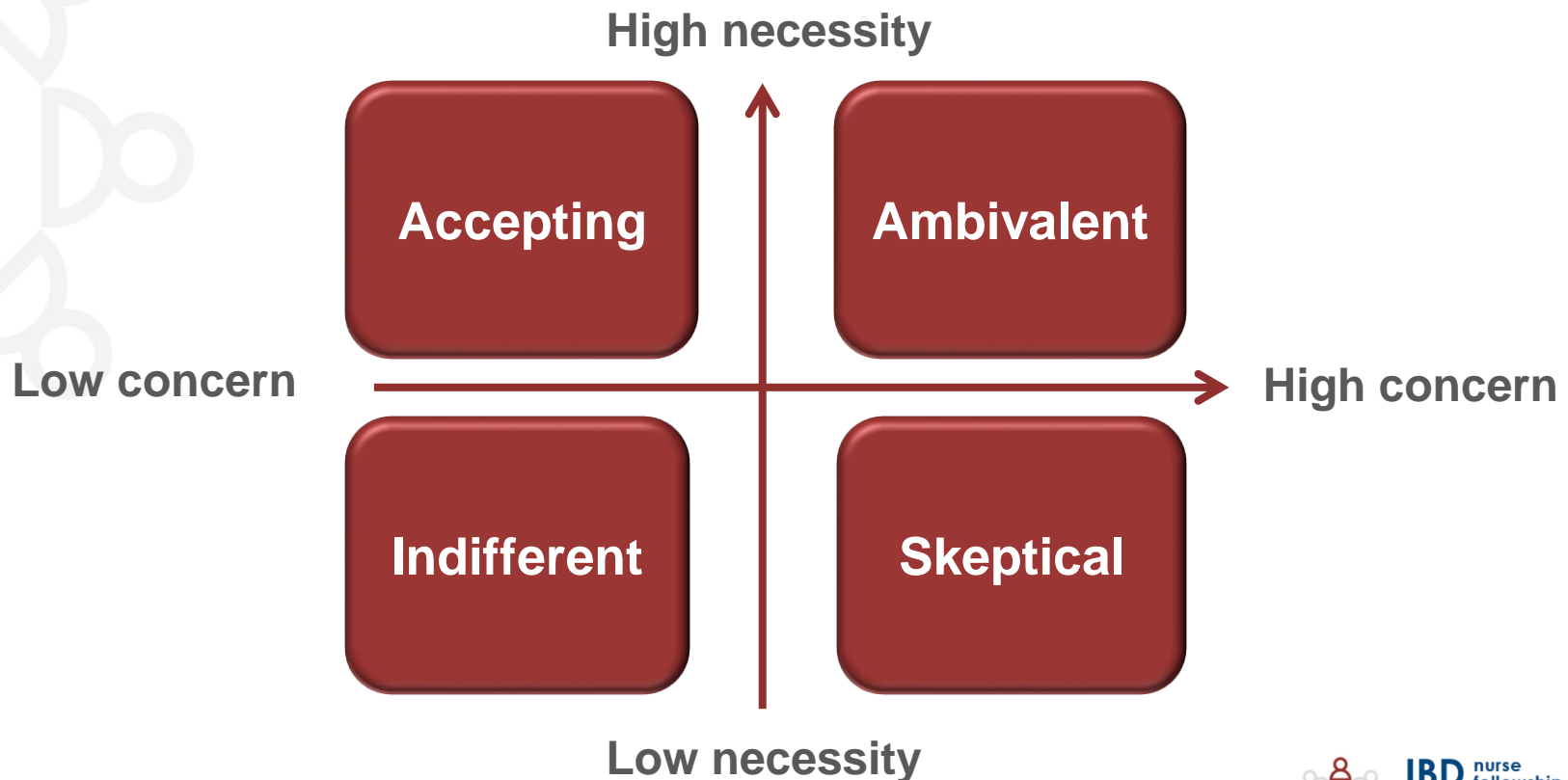


AZA, azathioprine; MP, mercaptopurine.
Bokemeyer *et al.*, 2007; Mantzaris *et al.* 2007.



Patient perception affects adherence

- Patient's perceptions of their condition are predictive of adherence
- Based on their beliefs and concerns, patients can be classified into four distinct attitudinal groups:

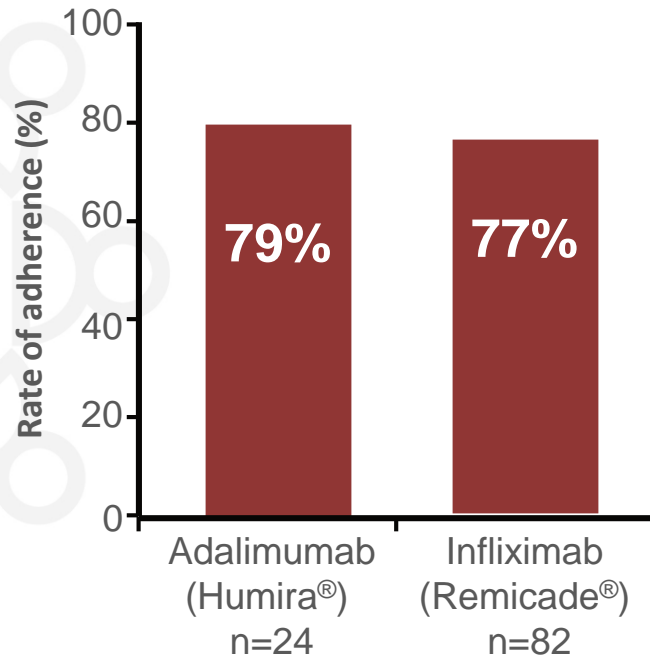


Drug type and dosing regimes affect adherence

- **Topical therapy**
 - Therapy with enemas, suppositories or foams has a greater association with non-adherence compared to oral therapy (68% versus 40%, respectively)
- **Enemas**
 - Judged to be difficult to use, painful, cause bloating, and difficult to manage during working hours
- **Oral therapy**
 - Reasons for non-adherence included multiple daily doses and high number of concomitant medications

Adherence to anti-TNF agents

Adherence rates* to adalimumab (Humira®) and infliximab (Remicade®) over 12 months in patients with IBD



The route of administration does not appear to affect adherence to anti-TNF agents

- Of the 19 patients who missed/postponed their infliximab (Remicade®) infusions, 16 cited **inconvenience** and one **forgetfulness** as the major reason
- Of the five patients who missed/postponed an injection of adalimumab (Humira®), the most common reason for doing so was **forgetfulness**

Forgetfulness seems to be a common patient behaviour that leads to non-adherence, regardless of drug type

*Adherence was assessed as the postponement of, or failure to attend, scheduled infliximab (Remicade®) infusions. In patients self-administering adalimumab (Humira®), adherence was assessed using the Medication Adherence Report Scale (MARS). Data from two large tertiary referral centres in the UK.

Duncan *et al.*, 2011.



Section 3

Strategies to improve adherence



Improving HCP-patient communication

- Adherence to medical therapy can be improved by building strong relationships between the HCP and patient
- The **COPE** principles can improve the relationship between the patient and HCP

Communicate with patients

Obtain patient's commitment to therapeutic objectives

Promote emotional/psychological/physical support as necessary

Educate the patient and his/her family



Personalizing patient treatment

- Adherence to medical therapy can be improved by implementing a personal management plan for each patient to improve his or her own self-management
- Interventions to optimize adherence tend to be more effective if they are tailored to the needs of the individual, considering factors such as:
 - Perceptions of the treatment
 - Personal habits
 - Practical abilities
 - Resource availability
- Intervention approaches include:

Individualized
therapy

Providing
patient
information
and support

Self-
management
programs

Practical aid
resources

Self-management support programs

Traditional care

Collaborative care

Assumes knowledge drives change



Assumes knowledge and confidence drives change

Clinician sets agenda



Patient sets agenda

Goal is compliance



Goal is enhanced confidence

Decisions made by caregiver



Decisions made collaboratively

Collaborative care engages patients in the management of their own condition





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 30
- The answer key provides the rationale for each answer and indicates where the correct answer can be found in the module



Question 1

Which key behavioural concept regards treatment as a two-way relationship between the patient and doctor?

- a) Adherence
- b) Persistence
- c) Concordance
- d) Compliance

Question 2

Which of the following is an intentional non-adherence barrier?

- a) The patient believing that that the medicine will disrupt their life
- b) The patient believing that the medicine will protect them from becoming worse
- c) The patient believing that they do not need the medicine
- d) The patient's concerns over the formulation and regimen of the medication

Question 3

Which of the following non-adherent behaviours is most commonly reported by patients?

- a) Deciding to miss a dose of medication
- b) Altering the dose of medication
- c) Forgetting to take the medication
- d) Discontinuing the medication altogether

Question 4

In the study by Duncan and colleagues (2011) that investigated adherence to anti-TNF agents, which of the following factors were shown to commonly lead to non-adherence, regardless of drug type?

- a) Patient-doctor relationship
- b) Route of administration
- c) Disease duration
- d) Patient forgetfulness

Question 5

Which strategy can help to improve medication adherence?

- a) Collaborative care
- b) Build strong relationships between the patient and healthcare professional
- c) Implementation of personal management plans for individual patients
- d) All of the above

Answer key

1. **The correct answer is c.** Concordance is a two-way relationship between patient and physician, where treatment decisions are discussed and the treatment of choice is most acceptable to both parties. See page 7 for more information on this topic.
2. **The correct answer is c.** The patient believing that they do not need the medicine is an intentional perceptual barrier. See page 9 for more information on this topic.
3. **The correct answer is b.** Altering the dose of medication was the most commonly reported non-adherent behaviour, with 32% of patients reporting that they altered their dose of medications. See page 10 for more information on this topic.
4. **The correct answer is d.** Duncan and colleagues reported patient forgetfulness to be a common behaviour that leads to non-adherence, regardless of drug type. See page 18 for more information on this topic.
5. **The correct answer is d.** Collaborative care, improving the relationship between the patient and healthcare professional, and personalizing patient treatment plans can all enhance medication adherence. See pages 20-22 for more information on these topics.

Congratulations!



You have completed the 7th module of the program.

Based on what you learned in Module 7, you should be able to:

- Outline the fundamental concepts of medication adherence and its importance in IBD management
- Identify key contributing factors to non-adherence
- Encourage individuals living with IBD to make informed choices regarding therapy through discussions of preference and adherence
- Describe ways in which adherence can be improved
- Employ different techniques for empowering people living with IBD to take a more active role in their treatment

If you have answered the quiz questions correctly and achieved the learning objectives, you are ready to move on to Module 8, which will focus on health promotion and maintenance in IBD.



References



- Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. *JAMA*. 2002 Nov 20;288(19):2469-75.
- Bokemeyer B, Teml A, Roggel C, Hartmann P, Fischer C, Schaeffeler E, Schwab M. Adherence to thiopurine treatment in outpatients with Crohn's disease. *Aliment Pharmacol Ther*. 2007 Jul 15;26(2):217-25.
- D'Inca R, Bertomoro P, Mazzocco K, Vettorato MG, Rumiati R, Sturniolo GC. Risk factors for non-adherence to medication in inflammatory bowel disease patients. *Aliment Pharmacol Ther* 2008; 27:116–172.
- Duncan J, Sastrillo M, Baker J, Younge L, Anderson S, Sanderson J, Lindsay J, Irving PM. ECCO 2011; Poster P178.
- Ediger JP, Walker JR, Graff L, Lix L, Clara I, Rawsthorne P, Rogala L, Miller N, McPhail C, Deering K, Bernstein CN. Predictors of medication adherence in inflammatory bowel disease. *Am J Gastroenterol* 2007; 102:1417–1426.
- Feagins LA, Iqbal R, Spechler SJ. Case-control study of factors that trigger inflammatory bowel disease flares. *World J Gastroenterol*. 2014 Apr 21;20(15):4329-34.
- Feldman M, Friedman, LS, Brandt LJ. *Sleisenger and Fordtran's Gastrointestinal and Liver Disease: Pathophysiology/Diagnosis/Management* (10th ed.); 2015.
- Horne R, Parham R, Driscoll R, Robinson A. Patients' attitudes to medicines and adherence to maintenance treatment in inflammatory bowel disease. *Inflamm Bowel Dis* 2009; 15:837–844.
- Lakatos PL, Czeglédi Z, David G, Kispál Z, Kiss LS, Palatka K, Kristof T, Nagy F, Salamon A, Demeter P, Miheller P, Szamosi T, Banai J, Papp M, Bene L, Kovacs A, Racz I, Lakatos L. Association of adherence to therapy and complementary and alternative medicine use with demographic factors and disease phenotype in patients with inflammatory bowel disease. *J Crohns Colitis* 2010; 4:283–290.
- Kane SV and Robinson A. Review article: understanding adherence to medication in ulcerative colitis – innovative thinking and evolving concepts. *Aliment Pharmacol Ther* 2010; 32:1051–1058.
- Kane S, Cohen RD, Aikens JE, Hanauer S. Prevalence of non-adherence with maintenance mesalamine in quiescent ulcerative colitis. *Am J Gastroenterol* 2001; 96:2929–2933.
- Kane S, Huo D, Aikens J, Hanauer S. Medication nonadherence and the outcomes of patients with quiescent ulcerative colitis. *Am J Med* 2003; 114:39–43.
- Mantzaris GJ, Roussos A, Kalantzis C, Koilakou S, Raptis N, Kalantzis N. How adherent to treatment with azathioprine are patients with Crohn's disease in long-term remission? *Inflamm Bowel Dis* 2007; 13:446–450.
- Robinson A. Review article: improving adherence to medication in patients with inflammatory bowel disease. *Aliment Pharmacol Ther*. 2008 Mar;27 Suppl 1:9-14..
- Sokol MC, McGuigan KA, Verbrugge RR, Epstein RS. Impact of medication adherence on hospitalization risk and healthcare cost. *Med Care* 2005; 43:521–530.

