

ORIGINAL ARTICLE

Chronic Constipation: A Unseen Pandemic – Root Cause of All Disorders

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ABSTRACT

Chronic constipation is described as a common complication determined by difficult and/or rare passage of stool or both. The difference in definition of constipation has led to a wide range of reported prevalence (i.e., between 1% and 80%). Various factors are involved in the pathogenesis of the disease, including type of diet, genetic predisposition, colonic motility, absorption, social economic status, *daily behaviors*, and biological and pharmaceutical factors. Diagnostic and therapeutic options play a key role in the treatment of chronic constipation.

KEYWORDS

• Clinical presentation • Constipation • Controversial issues • Diagnostic and therapeutic strategies

INTRODUCTION

Constipation is a disorder in the gastrointestinal tract, which can result in the infrequent stools, difficult stool passage with pain and stiffness. Acute constipation may cause closure of the intestine, which may even require surgery.¹

Pathogenesis is multifactorial with focusing on genetic predisposition, socioeconomic status, low fiber consumption, lack of adequate fluid intake, lack of mobility, *disturbance* in the

hormone balance, side effects of medications, or anatomy of the body, etc.²

Constipation is a common gastrointestinal problem, which causes many expenses for the community with an estimated prevalence of 1% to 80%, worldwide, where the condition is characterized by a wide geographical variation. It is noteworthy that the varieties of definitions have led to a wide range of prevalence.

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Chronic constipation is a complicated condition among older individuals, which is characterized by difficult stool passage. In this regard, this condition *has a close relationship with the patients' quality of life*, and consuming health resources.³

The definition of constipation is different among studies, where most studies are based on a questionnaire and may result from an organic condition. Overall, the average prevalence of constipation in adults has been estimated as 16% worldwide (varies between 0.7% and 79%); whereas the prevalence of 33.5% was attributed to adults aged 60 to 110 years. This heterogeneous condition is correlated with the patient quality of life, and *healthcare resource consumption*. The prevalence of constipation in Iran ranged from 1.4% to 37%, while the prevalence of functional constipation was determined as 24.2%. Epidemiological studies have revealed that high prevalence of chronic constipation is associated with age progression, *as far as we know*.⁴

Age and gender distribution - Constipation among older people is far more common than younger people. Common causes of constipation in the elderly are linked to several factors including lack of normal bowel movements or aging, lack of proper diet, lack of adequate fluid intake, lack of adequate physical activity, illness or the use of drugs.⁵

Causes of constipation - Pathogenesis is multifactorial with focusing on the type of diet, genetic predisposition, colonic motility, and absorption, as well as behavioral, biological, and pharmaceutical factors. Overall, a number of factors contribute to constipation including lower social economic status, lower parental education, physical activity, medications, depression, physical and sexual abuse, and everyday life events.⁶

The long list and heterogeneity of related factors indicate which many pathophysiological factors cause the same symptoms, and are often undetectable from early forms. Regarding the complex interactions of various pathophysiological factors, caution should be used in applying therapeutic strategies based on only one of them.

Diet - Common causes of chronic constipation include a lack of fiber (inadequate consumption of fruits, vegetables, and other foods containing fibers), no sufficient drinking water or liquids. In these cases, constipation

is usually not a serious problem and can be controlled and treated by correcting nutritional habits and lifestyles.⁷

Diseases and conditions as secondary cause of constipation:

- **Mechanical cause of constipation:** colon, rectal, or anal stricture, megacolon rectocele, intestinal pseudo obstruction, injured tissues, diverticulosis, and abnormal narrowing of the intestine or rectum.
- **Organic stenosis:** cancer or cancer-related causes (e.g., colorectal cancer and tumor, intestinal radiation, etc.), diverticulitis, sigmoid or cecal volvulus, intestinal masses, inflammatory, and ischemic or surgical stenosis.
- **Psychological conditions:** depression, anxiety, eating disease.
- **Enteric neuropathies:** people with Hirschsprung disease are more susceptible to constipation, as well as to chronic intestinal pseudo-obstruction.
- **Anorectal disorders:** anal strictures, anal fissures, and hemorrhoids are anal diseases that delay the removal of stool and exacerbate chronic constipation due to pain during fecal excretion.
- **Medications** Several constipation-causing medications
- **Rectal sensorimotor dysfunction**
- **Socioeconomic status**
- **Economic impact and the health-related quality of life.**⁸

Diagnosis

- **Clinical presentation and evaluation,** Medication-associated constipation or structural abnormalities, such as tumors or strictures, are rare in clinical examination and tests are not performed unless there is strong evidence.
- **Rectal examination** should be performed in patients with chronic constipation to seek secondary causes of constipation including the presence of anal pain cause (e.g., fissures or thrombosed haemorrhoids), palpation with the index finger, resting sphincter tone, digital evaluation of anal tone during rest and squeezing, as well as looking for rectocele in anterior wall.⁹

- Endoscopy - Structural procedures including flexible sigmoidoscopy (FS) or a colonoscopy can be very effective in obtaining evidence for the cause of unexplained symptoms, the use of chronic laxative and mucosal lesions (e.g., rectal ulcers, inflammatory bowel disease, colon, and rectal cancer).¹⁰
- Anorectal manometry Anorectal manometry (or ARM) is a diagnostic procedure for measuring pressure activity of anorectum, which accordingly can show rectal reflexes, rectal sensation, rectal compliance, and the rectosphincteric reflex at rest and during defecatory maneuvering.
- Balloon expulsion testing - The balloon expulsion test (BET), along with anorectal manometry, is used for determining dyssynergic defecation. Moreover, BET has been applied as a part of pelvic floor dyssynergia detection or for excluding patients suffering from constipation without pelvic floor dyssynergia.
- Barium enema - A barium enema is a colon X-ray procedure to define changes or anatomic abnormalities of colon filled with a contrast including.
- Defecography and magnetic resonance defecography (MRD) - Defecography is established as a type of radiological imaging that visualizes the anorectum and pelvic floor.¹¹ For this test, barium is placed inside rectum and images can be taken as the barium leaves patient body for anorectal region function.
- Colonic transit study - In this procedure, patients may swallow a capsule that contains either a radiopaque marker or a wireless recording device. The progress of the capsule through colon will be recorded over several days and be visible on X-rays.

Overall approach for managing chronic constipation - Dietary fiber and laxatives.

Fiber intake has been demonstrated to improve functional constipation. It has been indicated that diets with soluble fiber (psyllium 15 g daily or ispaghula) may benefit patients suffered from chronic constipation.

Newer treatment options - A new agent is required when the laxatives are not effective

in reducing symptoms; therefore, lubiprostone and linaclotide can be considered 2 favorable drugs. Lubiprostone is a bicyclic fatty, which was recommended at dosage of 24 µg p.o. twice daily as a gelatin capsule.

Prucalopride has been described as a selective high affinity 5-HT₄ receptor agonist, which works as a stimulator of gut motility. It can increase the frequency of bowel movements, where it may be prescribed as a remedy for the treatment of chronic constipation. Alvimopan and methylnaltrexone have been recently suggested as new agents for the treatment of constipation caused by opioid.¹²

Alvimopan has been recommended for postoperative ileus after surgeries by Food and Drug Administration (FDA), while FDA indicated that methylnaltrexone could be applied for patients suffering from opioid-induced constipation.

Biofeedback therapy - Previous studies reported that biofeedback therapy could be effectively efficient by using neuromuscular training, visual, and verbal feedback. It has priority over other therapies such as laxative and sham training.¹³

Surgical Treatment - Surgical interventions may be used as an option if medical treatment was failed in constipated patients and mechanical emptying of the colon may be recommended in patients with slow bowel movements using an enema program.¹⁴ Colectomy with ileorectal anastomosis has been introduced to be the treatment option in patients suffering from refractory slow transit constipation (i.e., colonic inertia), where dyssynergic defecation was accepted.

CONCLUSION

The prevalence is 16% in the general population (range between 0.7% and 79%). Therefore, diagnostic and therapeutic options are important for treatment of chronic constipation. Better understanding of the pathophysiology of chronic constipation and information in terms of efficacy and safety of pharmacological agent can help physicians for treating and managing symptoms of constipation. Diagnostic evaluation should be done with an appropriate method to define the nature of colon transit or *rectal evacuation* or approving the lack of a primary illness resulting in constipation symptoms.¹⁵

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