ORIGINAL ARTICLE

CONTENTS

# Understanding constipation among the elderly: Determinants and relevance to healthy ageing in a tertiary care setting in Ajman, UAE

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## ABSTRACT

**Aim:** The primary aim of this study was to identify and analyze the socio-demographic determinants of constipation among elderly individuals (≥60 years) attending a tertiary care hospital in Ajman, United Arab Emirates, in order to address an important gap in regional geriatric gastrointestinal research.

**Materials and Methods:** A record-based case–control study was conducted among patients aged 60 years and above attending a tertiary care hospital. The cases were elderly patients with documented constipation, while the controls were elderly patients without constipation, selected in a 1:2 ratio. Data were extracted using a structured and validated proforma. Descriptive statistics, chi-square tests, and binary logistic regression were performed to examine associations. Crude and adjusted odds ratios with 95% confidence intervals were calculated, and a p-value ≤0.05 was considered statistically significant.

**Results**: Constipation was more frequently observed among males and in specific age groups. Participants aged 60–69 years constituted the largest proportion of cases (78.8%), while those aged 70–79 years were more commonly represented among controls. A significant association was observed between age group and constipation ($p<0.01$). Male participants accounted for 71.3% of cases compared to 37.4% of controls ($p<0.01$). In adjusted analysis, male gender remained a strong predictor of constipation (AOR: 4.41; 95% CI: 2.40–8.11).

**Conclusions:** Male gender and age group were key socio-demographic determinants of constipation among elderly patients in this tertiary care setting. These findings highlight the need for targeted screening, early recognition, and preventive strategies for constipation as part of routine geriatric care.

**KEY WORDS:** socio-demographic factors, case–control studies, logistic regression, gastrointestinal motility, preventive geriatrics, quality of life

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## INTRODUCTION

Constipation is one of the most common gastrointestinal disorders affecting the elderly population globally. It is characterized by lumpy or hard stools, excessive straining, difficulty in defecation, bloating, abdominal pain, and decreased frequency of defecation [1,2]. In general, constipation can be defined as a lack of satisfactory defecation, which incorporates various symptoms and may be either chronic or sporadic. Constipation has a major negative impact on the quality of life of individuals, affecting both their physical and emotional well-being. It also has a burden on the healthcare system due to increased costs, increased hospital visits, specialty referrals, and hospital admissions [3]. Constipation has substantially become more common with advancing age and is now recognized as an important geriatric problem. In the elderly, it can lead to several complications: anal pain, anal hemorrhoids, rectal bleeding, fecal impaction, bowel perforation, fecal incontinence, rectal prolapse, volvulus, and excessive perineal descent [1, 4]. Therefore, we can determine that constipation is a major global health concern.

Globally, constipation is a very prevalent gastrointestinal condition, specifically among the older population. This is clearly evident in a recent systematic review and meta-analysis of 36 studies. These studies included 58,405 older adults aged 60-93 years. The overall prevalence of constipation in older adults was found to be 18.9% (95% confidence interval [95% CI]: 14.7-23.9%) [5]. Similarly, in another study conducted in China, it was shown that constipation among adults aged ≥ 65 years had a prevalence of 14.8% (95% CI 14.6–15.0), with women (16.0%) having higher rates than men (14.1%) [6]. Furthermore, a community- and hospital-based study conducted in Spain of functional constipation in those over 70 years reported a prevalence of 26.8%, again significantly higher in women (32.4%) than men (21.8%) ($p = 0.019$) [7]. Another striking finding comes from a cross-sectional study conducted in Iran among 200 older adults, which showed that, according to the Rome III criteria, the prevalence of functional constipation was 45 percent, a very significant number among the older adult population [8]. Therefore, with the aid of these studies from different parts of the world, it is evident that constipation is a common and significant problem, particularly among the elderly, affecting their quality of life.

The recent epidemiological literature in the MENA region demonstrates that constipation is both common and under-recognised, with wide variability related to diagnostic criteria, comorbidities, dietary patterns, and healthcare-seeking behaviours. A 2023 prospective cohort study from Oman demonstrated that more than 40% of medically hospitalized older adults suffer from constipation, emphasizing the role of polypharmacy, immobility, and acute illness [2]. Community-based studies from Saudi Arabia also represent an increasing burden; a 2023 study in the Western Region recognized poor symptom recognition and limited complication awareness, which may indicate that prevalence is underestimated [9].

Emerging 2024 evidence reinforces the magnitude of constipation in older and high-risk groups. In Qassim, a study among diabetic adults, most of whom were elderly, reported a prevalence of 30.4%, with age, disease duration, coronary disease, and insulin therapy identified as significant contributors10. Another 2024 population-level study from Al-Ahsa documented a 40.7% prevalence using Rome III criteria, while physical inactivity, chronic disease, female sex, and medication use served as major associated factors [11]. These findings mirror global trends linking constipation in older adults to multimorbidity, reduced mobility, low-fibre diets, and use of medications such as opioids, anticholinergics, and calcium-channel blockers.

Taken together, the accumulating evidence from Oman and Saudi Arabia, and other MENA settings, suggests that constipation represents an important and emerging health issue among older individuals. Its consistently high prevalence, in particular among those with chronic illnesses, calls for analytic studies to determine region-specific risk factors and appropriate targeted prevention, early recognition, and geriatric care strategies [2, 5, 9–11].

From a clinical perspective, constipation is a highly significant gastroenterological condition in the UAE; however, there is a marked lack of data regarding its associated factors within the UAE population. This broader trend of limited epidemiological insight across a spectrum of gastrointestinal diseases was highlighted by a decade-long histopathological and epidemiological study conducted in tertiary hospitals in the UAE [12]. Within this same study, functional gastrointestinal disorders, such as chronic constipation, were excluded because functional conditions do not require histopathological confirmation [12]. Despite this exclusion, the study reported a substantial proportion of the population affected by lower gastrointestinal conditions such as hemorrhoids and anal fissures - disorders that commonly occur in association with constipation [12]. However, to date, there are no recent studies that specifically focus on constipation as a primary topic of investigation in the UAE.

Some studies have reported the prevalence of related disorders, such as irritable bowel syndrome (IBS), at 17.3% (n = 471), [13] but these findings do not provide specific data on constipation-predominant IBS, thereby highlighting a significant gap in the existing literature. Overall, constipation remains one of the most understudied gastrointestinal conditions in the UAE, with a notable lack of research examining its determinants. This research gap is also evident among the elderly population. Only a single study conducted in 2015 examined pelvic floor muscle weakness secondary to chronic constipation among elderly Emirati women [14]. Apart from this, no studies have specifically focused on constipation in elderly populations in the UAE, despite it being one of the most prevalent conditions in older adults. This underscores the need for targeted research exploring constipation as an independent condition, particularly among the elderly, to support the development of evidence-based care and improve clinical outcomes for this vulnerable population.

Constipation is a common and clinically important problem among elderly individuals, yet data on its determinants in the United Arab Emirates are limited. Existing regional evidence is limited and largely focuses on other gastrointestinal conditions, leaving a significant

gap in understanding constipation as a standalone issue in older adults. Therefore, this study was conducted to identify sociodemographic determinants of constipation among elderly patients attending a tertiary care hospital in Ajman, UAE, to support improved detection and targeted care. The study outcomes may enable care providers to formulate and implement targeted strategies for early identification of vulnerable populations and to advocate for preventive measures before the onset of symptoms, contributing to healthy aging.

## AIM

The primary aim of this study was to examine and characterize the socio-demographic factors associated with constipation among elderly individuals aged 60 years and above attending a tertiary care hospital in Ajman, United Arab Emirates. By analyzing variations across age groups, gender, and other key demographic characteristics, this study seeks to address the existing gap in region-specific evidence on constipation in older adults and to contribute data that may support improved detection, risk stratification, and preventive geriatric care within the UAE healthcare setting.

## MATERIALS AND METHODS

### STUDY DESIGN, STUDY POPULATION, SAMPLE SIZE, AND SAMPLING

A record-based case–control study was conducted to examine determinants of constipation among elderly individuals attending a tertiary care hospital in Ajman, United Arab Emirates. The study population consisted of individuals aged 60 years and above whose medical records were available at a Tertiary care centre, Ajman, UAE. Cases were defined as elderly patients with confirmed documented cases of constipation, while controls were elderly patients without constipation. Records with incomplete data were excluded.

Based on a reported prevalence of constipation of 18.9% among older adults and evidence suggesting higher odds of constipation among advanced age groups, the minimum required sample size was calculated as 80 cases with a case-to-control ratio of 1:2, resulting in 161 controls. A convenience sampling method was adopted to retrieve the records of people with constipation and without constipation.

### STUDY PROFORMA

A proforma was developed in accordance with the objectives of the study. It included information on constipation status; socio-demographic characteristics such as age, gender, nationality, and marital status; and anthropometric measurements, including height and weight, which were used to calculate body mass index (BMI). The proforma was refined through a pilot study conducted using five patient records with a diagnosis of constipation.

### DATA COLLECTION PROCEDURE

Following approval from the Institutional Review Board of the Medical University, permission was obtained from the hospital administration to access medical records. Eligible patient charts were reviewed, and relevant data were extracted using a structured proforma. In this study, patients with a confirmed diagnosis of constipation were classified as cases, while patients without constipation and presenting with other conditions were classified as controls. No personal identifiers were collected, and all data were handled in strict accordance with the institution's research confidentiality and data protection policies.

### DATA ANALYSIS

Data was entered into Microsoft Excel and subsequently analyzed using SPSS version 30. Descriptive statistics were computed and presented as frequencies and percentages. The association between constipation and socio-demographic variables was assessed using the chi-square test. Binary logistic regression analysis was performed to estimate crude and adjusted odds ratios with 95% confidence intervals. A p-value ≤0.05 was considered statistically significant

### ETHICS STATEMENT

The study protocol was reviewed and approved by the Institutional Review Board of the Medical University (IRB Ref. no. IRB-COM-STD-104-Dec-2025). Approval obtained from the Hospital administration before retrieving the data. The study involved no invasive procedures or interventions and posed no risk. Confidentiality was maintained through secure data storage, and no personally identifying information, including email addresses, was collected to ensure anonymity.

## RESULTS

A total of 241 adults participated in the study, with 80 classified as cases (diagnosed with constipation) and 161 as controls (without constipation). The sociodemographic predictors were analyzed. Socio-demographic characteristics play a fundamental role in shaping health patterns among older adults.

**Table 1.** Distribution of sociodemographic factors between patients with and without constipation

| Variables | Group | Controls | | Cases | | p-value |
|---|---|---|---|---|---|---|
| | | [N] | [%] | [N] | [%] | |
| Age Group | 60-69 | 101 | 59.1 | 63 | 78.8 | <0.01 |
| | 70 -79 | 56 | 32.7 | 9 | 11.3 | |
| | >= 80 | 14 | 8.2 | 8 | 10.0 | |
| Gender | Male | 64 | 37.4 | 57 | 71.3 | <0.01 |
| | Female | 107 | 62.6 | 23 | 28.7 | |
| Marital Status | Single | 3 | 1.8 | 2 | 2.5 | NS (0.698) |
| | Married | 167 | 98.2 | 78 | 97.5 | |
| Nationality | Eastern Mediterranean Region | 115 | 68.0 | 59 | 73.8 | NS (0.656) |
| | South-Asian | 33 | 19.5 | 13 | 16.3 | |
| | Others | 21 | 12.4 | 8 | 10.0 | |
| BMI | Normal | 27 | 15.9 | 19 | 23.8 | NS (0.134) |
| | Abnormal | 143 | 84.1 | 61 | 76.3 | |

*Source: Own materials*

**Table 2.** Logistic regression for sociodemographic predictors of constipation

| Variables | Group | Constipation | | | | | |
|---|---|---|---|---|---|---|---|
| | | Crude | | | Adjusted | | |
| | | OR | CI | p-value | OR | CI | p-value |
| Age Group | 60-69 | 1 | -- | -- | 1 | -- | -- |
| | 70 -79 | 0.26 | 0.12 - 0.56 | <0.001 | 0.25 | 0.11 – 0.55 | 0.001 |
| | >= 80 | 0.92 | 0.36 - 2.31 | NS (0.85) | 1.06 | 0.40 - 2.83 | NS (0.91) |
| Gender | Male | 4.14 | 2.33 – 7.36 | <0.001 | 4.30 | 2.38 - 7.78 | <0.001 |
| | Female | 1 | -- | -- | 1 | -- | -- |

*Source: Own materials*

Table 1 presents the distribution of these socio-demographic characteristics between elderly patients with constipation (cases) and those without constipation (controls). Clear differences were observed in relation to age distribution and gender, highlighting important demographic patterns associated with constipation in this population.

Participants aged 60–69 years constituted the largest age group overall; however, they were disproportionately represented among cases compared with controls (78.8% *vs.* 59.1%). Conversely, individuals aged 70–79 years were more commonly observed in the control group (32.7%) than among cases (11.3%). Those aged ≥80 years formed a smaller but notable proportion in both groups, accounting for 10.0% of cases and 8.2% of controls. Collectively, these findings demonstrate a statistically significant variation in constipation prevalence across age categories ($p < 0.01$), suggesting that age-related patterns of risk exist within the elderly population.

A striking gender-based difference was identified. It revealed a pronounced male predominance among cases. Males represented 71.3% of constipation cases compared with 37.4% of controls, whereas females accounted for 28.7% of cases and 62.6% of controls ($p < 0.01$), therefore indicating a strong association between male gender and constipation.

Marital status did not differ significantly between the two groups. Most participants in both cases and controls were married (97.5% and 98.2%, respectively), with only a very small proportion being single. Similarly, nationality showed no statistically significant association with constipation. Participants from the Eastern Mediterranean Region constituted the largest subgroup in both cases (73.8%) and controls (68.0%), followed by South Asians and individuals from other regions.

With respect to nutritional status, abnormal BMI levels (overweight, obese, and underweight) were highly prevalent in both cases (76.3%) and controls (84.1%). Although a slightly higher proportion of cases had normal BMI levels compared with controls (23.8% vs. 15.9%), the overall distribution of BMI levels did not differ significantly between groups. This indicates that excess body weight is common among elderly patients, irrespective of constipation status in this population.

In order to identify which socio-demographic factors independently predict constipation after accounting for potential confounding influences, a multivariable logistic regression model was applied.

Table 2 presents the results of this adjusted logistic regression analysis, comparing the crude and adjusted odds ratios for various sociodemographic factors. Among which gender was the most significant determinant of constipation within the study population? In the adjusted model, male participants demonstrated a substantially higher risk, being 4.41 times more likely to have constipation compared to their female counterparts (AOR: 4.41; 95% CI: 2.40–8.11; p = < 0.01)

Additionally, age also played a significant role, particularly within the 70–79 age group, which exhibited a significantly lower risk of constipation compared to the reference group of individuals aged 80 and older (AOR: 0.25; 95% CI: 0.77–0.84; p = 0.02). In contrast, no significant difference in risk was found between the 60–69 age group and the reference group (AOR: 1.17; p = 0.76).

Other socio-demographic variables, including marital status, nationality, and BMI category, did not show statistically significant associations with constipation after adjustment. Married individuals did not differ significantly from single participants, and no meaningful differences were observed across nationality groups. Likewise, abnormal BMI was not significantly associated with constipation in crude (OR = 0.61; 95% CI: 0.31–1.17; p = 0.14) or adjusted models (adjusted OR = 0.58; 95% CI: 0.28–1.26; p = 0.15).

Overall, the adjusted analysis indicates that age group 70-79 years and male gender remain key socio-demographic determinants of constipation among elderly patients in this tertiary care setting.

The adjusted analysis indicates that the 70–79-year age group and male gender remain key socio-demographic determinants of constipation among elderly patients in this tertiary care setting. This association may reflect age-related physiological changes, including reduced gastrointestinal motility, increased comorbidity burden, polypharmacy, and decreased physical activity, which become more pronounced with advancing age. The higher prevalence observed among males may be related to gender-specific differences in lifestyle behaviors, dietary habits, health-seeking patterns, and comorbid conditions such as benign prostatic hyperplasia, which can indirectly influence bowel function. These findings highlight the need to incorporate age- and gender-specific risk stratification into routine geriatric assessments, with a focus on early identification and preventive management of constipation. Such targeted approaches are essential to support healthy aging, preserve functional independence, improve quality of life, and reduce preventable complications among older adults in tertiary care and community settings.

## DISCUSSION

Constipation is a common public health condition and a clinically significant condition among older adults, adversely affecting quality of life, functional independence, and healthcare utilization. Identifying the determinants of constipation in the elderly is essential for informing appropriate healthcare planning and healthy aging strategies. Importantly, the findings also emphasize the need to initiate preventive strategies at an earlier age, as many risk factors for constipation, such as physical inactivity, inadequate dietary fiber intake, poor hydration, and long-term medication use, are modifiable and accumulate over the life course. Early adoption of healthy bowel habits and lifestyle interventions may reduce the burden of constipation in later life, support functional independence, and promote healthy aging. This case–control study, conducted in a tertiary care setting in Ajman, UAE, examined the socio-demographic predictors of constipation among elderly patients attending the healthcare facility.

The results underscore the influence of age and gender on constipation while highlighting its multifactorial etiology among older adults in tertiary care settings. Age was found to be associated with constipation, though in a non-linear manner, with individuals aged 60-69 years and those aged 70-79 years presenting with higher and lower odds, respectively, compared to the oldest age group, i.e., individuals aged 80 years or above with constipation. The evidence suggests that the risk among individuals may be influenced by interactions among various biological, behavioral, and healthcare factors with age. According to recent evidence, constipation among older individuals has been found to be influenced by factors such as decreased muscle mass, slow colonic transit, and weakness of the pelvic floor muscles associated with age [15]. According to a population-based cohort study, constipation among older individuals has been associated with sarcopenia, a major aspect associated with biological ageing, pointing towards the role of decreased muscle mass and strength in the onset of constipation [16]. In another study, constipation among older individuals has been associated with sarcopenia and slow gait speed, pointing towards other factors associated with constipation, other than aging, among older individuals [17]. Younger elderly groups may also have a higher exposure to potentially modifiable lifestyle-related risk factors, which include

lower dietary fiber, inadequate water intake leading to dehydration, or lack of exercise, particularly in the past. Older age groups may have a lower exposure to risks related to bowel care, given better surveillance or care systems, and other use of laxatives.

Wang et al. reported an age- and gender-adjusted prevalence of constipation of 14.8%, with higher rates observed among younger elderly individuals, indicating that constipation can occur early within the older adult population in community settings [6]. Moreover, Oztop et al. examined the association between constipation and functional status among community-dwelling older adults, finding that reduced lower-limb mobility and diminished quality of life were significantly associated with constipation, highlighting the impact of functional impairment independent of chronological age [18].

Male gender was a strong independent predictor of constipation. The odds were significantly higher among elderly men than women, which contrasts with many community-based studies reporting a higher prevalence among females [5, 19]. Sex-specific patterns may indeed be different in the case of the healthcare-seeking population, as pointed out by hospital-based studies [2, 20, 21]. In tertiary care facilities, men often present with higher burdens of cardiovascular disease, diabetes, and neurological disorders, commonly associated with secondary constipation [2]. Prescriptions of constipating drugs such as opioids, calcium channel blockers, and anticholinergics are also likely to be given more frequently to men. Cultural or behavioral factors, such as delayed symptom reporting until symptoms worsen, further affect the prevalence among hospitalized men [2]. These data emphasize the need for gender-specific screening, early recognition, and targeted prevention during geriatric management, especially in tertiary healthcare settings where constipation can be overlooked due to other clinical priorities.

Marital status was not significantly associated with clinically diagnosed constipation. Social relationships contribute to health outcomes for older people, including the perception of symptoms and functional health, as reported by Holt-Lunstad et al [22]. However, marital status alone may inadequately capture psychosocial determinants of bowel health. Lee et al. reported differences in constipation perception between married and never-married adults, but the study included a younger community sample, which may not reflect the older population in the hospital context [23].

Statistical insignificance was observed in nationality, although this study comprised people from different backgrounds, including the Eastern Mediterranean Region and South Asia, due to shared clinical exposures, care methods, and clinical management, which might reduce possible ethnic or cultural effects on constipation risks. This observation is also strengthened by recent findings indicating constipation risks vary across different regions, while in clinical settings, risk factors are standardized, leading to reduced effects of nationality on constipation risks [5]. Indeed, all this suggests the need to find out how refined indicators of social support and living arrangements, and cultural health behaviors, may be in relation to constipation risks among older people.

Levels of BMI were not significantly associated with constipation in this study. Recent evidence suggests that bowel function in older age is modulated by body composition factors-sarcopenia and obesity-wherein a sole measure of BMI will not suffice to understand these complex relationships [17,24]. Anthropometric measures of nutritional status alone cannot provide a functional representation of the determinants of constipation; therefore, assessment should not be limited to BMI but also needs to incorporate functional status, diet quality, and muscle mass.

Constipation among the elderly is associated with several adverse outcomes, which include prolonged hospitalization, delirium, and increased utilization of health care [25]. According to studies, structured assessments, routine reviews of medications, and non-pharmacologic approaches, such as dietary changes and physical activity, have the potential to reduce symptom burden and improve quality of life [26]. Recent evidence indicates that supplementation with dietary fiber in chronically constipated elderly subjects improves stool consistency, reduces laxative dependence, and promotes gut microbiota health [27]. On the other hand, according to a recent narrative review, the most common pitfalls of constipation among older adults are improper assessment and identification of underlying conditions and irrational use of medications [28].

The strengths of this study include a clinically diagnosed, hospital-based elderly population and the use of multivariable logistic regression to account for most of the key confounders, which strengthens the validity of the associations observed. However, several limitations should be declared. First, the case–control design precludes causal inference, and the hospital-based sample may limit generalizability to community-dwelling older adults. Second, data were extracted from medical records, which may underreport bowel symptoms, lifestyle factors, over-the-counter medication use, and adherence to prescribed regimens. Third, constipation severity, chronicity, dietary patterns, hydration status, physical activity, and psychosocial determinants such as stress, caregiver support, or living arrangements were not measured and might modify the association

observed [19,29]. Finally, residual confounding due to unmeasured clinical or behavioral factors cannot be entirely ruled out. Future studies should adopt a longitudinal and community-based design, a detailed assessment of lifestyle, functional status, and psychosocial determinants, and consideration of patient-reported outcomes in order to better elucidate the modifiable risk factors for constipation among older adults.

## CONCLUSIONS

This study highlights the sociodemographic determinants of constipation among elderly patients attending a tertiary care center in Ajman, UAE. Elderly males were four times more likely to experience constipation than females, and individuals aged 70–79 years had a higher risk compared with those aged 80 and above, suggesting that constipation risk varies across age categories rather than increasing uniformly. These findings emphasize the importance of early preventive strategies, including adequate hydration, dietary fiber intake, physical activity, and careful medication monitoring, to reduce constipation burden and support healthy aging. Public health advocates and clinicians play complementary roles in this effort: advocates implement population-level education, community programs, and policies to promote prevention and early identification, while clinicians provide individualized assessment, management, and lifestyle guidance. Together, these approaches can reduce morbidity, preserve functional independence, and enhance healthy aging among older adults.

### REFERENCES


1. Du X, Liu S, Jia P, et al. Epidemiology of Constipation in Elderly People in Parts of China: A Multicenter Study. Front Public Health 2022;10:823987. doi: 10.3389/fpubh.2022.823987. DOI
2. Al Nou'mani J, Al Alawi AM, Al-Maqbali JS, et al. Prevalence, Recognition, and Risk Factors of Constipation among Medically Hospitalized Patients: A Cohort Prospective Study. Medicina (Kaunas) 2023;59:1347. doi: 10.3390/medicina59071347. DOI
3. Konradsen H, Lundberg V, Florin J, et al. Prevalence of constipation and use of laxatives, and association with risk factors among older patients during hospitalization: a cross sectional study. BMC Gastroenterol 2022;22:110. doi: 10.1186/s12876-022-02195-z. DOI
4. Shi L, Shi L, Wei M, et al. Prevalence, risk factors, impact and management of constipation among adults in Urumqi, China: a cross-sectional survey. Front Nutr 2024;11:1451527. doi: 10.3389/fnut.2024.1451527 DOI
5. Salari N, Ghasemianrad M, Ammari-Allahyari M, et al. Global prevalence of constipation in older adults: a systematic review and meta-analysis. Wien Klin Wochenschr 2023;135:389–98. doi: 10.1007/s00508-023-02156-w. DOI
6. Wang F, Fei M, Hu W-Z, et al. Prevalence of Constipation in Elderly and Its Association With Dementia and Mild Cognitive Impairment: A Cross-Sectional Study. Front Neurosci 2021;15:821654. doi: 10.3389/fnins.2021.821654. DOI
7. Arco S, Saldaña E, Serra-Prat M, et al. Functional Constipation in Older Adults: Prevalence, Clinical Symptoms and Subtypes, Association with Frailty, and Impact on Quality of Life. Gerontology 2022;68:397–406. doi: 10.1159/000517212. DOI
8. Amiri M, Hassanzadeh A, Rahimi M. A survey on functional constipation and its risk factors in older people in Shahreza, Iran. J Educ Health Promot 2024;13:118. doi: 10.4103/jehp.jehp_345_23. DOI
9. Hemdi M, Alkarmo MY, Alahmadi RA, et al. Awareness of the General Population Toward Constipation and Its Complications in the Western Region, Saudi Arabia. Cureus 2023;15:e36022. doi: 10.7759/cureus.36022. DOI
10. A Aloufi M, Q Alqahtani Q, A Albedah B. Exploring the Prevalence of Constipation in Diabetic Individuals in Qassim Region, Saudi Arabia 2024. Med Sci 2024;28:1–8. doi: 10.54905/disssi.v28i149.e86ms3396. DOI
11. Alkhlaif ZK, Alhajji AM, Alkhalaf AM, et al. Prevalence and risk factors of constipation among the general population in Al-Ahsa, Saudi Arabia. International Journal of Medicine in Developing Countries 2024;8:1830–1830. doi: 10.24911/IJMDC.51-1696076377. DOI
12. Shetty PJ, Premvignesh PA, Albaghdadi SI, et al. Epidemiological and histopathological spectrum of gastrointestinal tract disorders: a decade of records from the UAE. BMC Gastroenterol 2025;25:677. doi: 10.1186/s12876-025-04302-2. DOI
13. Fraij A, Shukry A, Omira A, et al. Prevalence and Predictors of Irritable Bowel Syndrome (IBS) Among Medical Students at the University of Sharjah, UAE. Cureus 2024;16:e71758. doi: 10.7759/cureus.71758. DOI
14. Elbiss HM, Rafaqat W, Khan KS. Prevalence of pelvic floor disorders in the Eastern Mediterranean region: A meta-analysis. SMJ 2023;44:128–36. doi 10.15537/smj.2023.44.2.20220510.
15. Patejdl R. Gastrointestinal Motility Function and Dysfunction in the Elderly Patient: What Are the Effects of Aging? Visc Med 2024;40:325–30. doi: 10.1159/000542156. DOI
16. Nakagawa H, Takeshima T, Ozaka A, et al. The Association between Sarcopenia and Constipation Onset in Community-dwelling Older Adults in Japan. Intern Med 2025;64:1965–70. doi: 10.2169/internalmedicine.4391-24. DOI
17. Park H, Lim J, Baek JY, et al. Status of Constipation and Its Association with Sarcopenia in Older Adults: A Population-Based Cohort Study. Int J Environ Res Public Health 2021;18:11083. doi: 10.3390/ijerph182111083. DOI

18. Oztop M, Yagcı N. Beyond the gut: The overlooked impact of constipation on functional mobility and quality of life in community-dwelling elders – a cross-sectional study. Geriatr Gerontol Int 2025;25:799–805. doi: 10.1111/ggi.70060. DOI
19. Chen Z, Peng Y, Shi Q, et al. Prevalence and Risk Factors of Functional Constipation According to the Rome Criteria in China: A Systematic Review and Meta-Analysis. Front Med (Lausanne) 2022;9:815156. doi: 10.3389/fmed.2022.815156. DOI
20. Nojkov B, Baker JR, Chey WD, et al. Age- and Gender-Based Differences in Anorectal Function, Gastrointestinal Symptoms, and Constipation-Specific Quality of Life in Patients with Chronic Constipation. Dig Dis Sci 2023;68:1403–10. doi: 10.1007/s10620-022-07709-z. DOI
21. Abe T, Kunimoto M, Hachiro Y, et al. Are There Sex Differences in Defecation Patterns in Patients with Defecation Disorders? - A Single-center Observational Study. Journal of the Anus, Rectum and Colon 2023;7:150. doi: 10.23922/jarc.2022-078. DOI
22. Holt-Lunstad J, Smith TB, Layton JB. Social Relationships and Mortality Risk: A Meta-analytic Review. PLOS Medicine 2010;7:e1000316. doi: 10.1371/journal.pmed.1000316. DOI
23. Th L, Sc C, Mi P, et al. Constipation misperception is associated with gender, marital status, treatment utilization and constipation symptoms experienced. J Neurogastroenterol Motil. 2014;20. doi: 10.5056/jnm14011. DOI
24. Ning Y, Hu X, Li L, et al. Association of obesity-related anthropometric indicators with chronic constipation and diarrhea among U.S. adults: a cross-sectional study. Front Nutr 2025;12. doi: 10.3389/fnut.2025.1610214. DOI
25. Al Alawi AM, Al Nou'mani J, Al Abri N, et al. Impact of Constipation on Health Outcomes in Medically Hospitalized Patients: A Prospective Study on Laxative Use and Health Care Outcomes. Medicina (Kaunas) 2024;60:1599. doi: 10.3390/medicina60101599. DOI
26. Xu L, Leng Y, Dai P, et al. Nonpharmacologic treatment for elderly with constipation: a systematic review and meta-analysis. Front Med 2025;12. doi: 10.3389/fmed.2025.1644609. DOI
27. Xi N, Yang X, Liu J, et al. Effects of Dietary Fiber Supplementation on Chronic Constipation in the Elderly: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Foods 2025;14:2315. doi: 10.3390/foods14132315. DOI
28. Niriella M, Jayasena H, Wijesingha P, et al. Critical mistakes in managing chronic constipation in the older person and how to avoid them: A narrative review. J Gen Fam Med 2025;26:394–401. doi: 10.1002/jgf2.70033. DOI
29. Zhao M, Luo R, Shen Y, et al. Factors associated with symptom relief in patients with irritable bowel syndrome: a retrospective cohort study. Front Med (Lausanne) 2025;12:1643177. doi: 10.3389/fmed.2025.1643177. DOI

## CONFLICT OF INTEREST

The Authors declare no conflict of interest

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