

The Mediating Role of Health-Promoting Lifestyle in Stressful Life Events and Health Indicators of Patients with Irritable Bowel Syndrome: a Salutogenic Approach

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Extended Abstract

Background and Objectives

Irritable bowel syndrome (IBS) is one of the most prevalent chronic gastrointestinal disorders worldwide and is characterized by abdominal pain, bloating, and altered bowel habits. It significantly impairs quality of life and places a heavy burden on healthcare systems. Although the exact etiology is unclear, biopsychosocial models highlight the interaction between biological factors, stressful life events, and psychosocial variables in the development and maintenance of IBS symptoms.

Patients with IBS often report higher exposure to stressful life events, which can exacerbate gastrointestinal symptoms through neuroendocrine and autonomic dysregulation. Moreover, these patients frequently adopt maladaptive coping strategies and exhibit unhealthy lifestyle behaviors, such as irregular eating patterns, physical inactivity, and poor sleep quality. These behaviors can worsen IBS symptoms and contribute to impaired physical and psychological well-being.

A salutogenic approach—which focuses on factors that support health and well-being rather than on risk factors—suggests that adopting a health-promoting lifestyle (HPL) may buffer the adverse effects of stress on health. HPL includes domains such as nutrition, physical activity, stress management, interpersonal relations, health responsibility, and spiritual growth. Investigating whether HPL mediates the relationship between stressful life events and health outcomes may help explain why some patients with IBS cope better than others and could inform the development of interventions to improve symptom management and quality of life.

The present study aimed to examine the mediating role of health-promoting lifestyle in the relationship between stressful life events and health indicators (physical, mental, and social health) in patients with IBS using a salutogenic framework.

Materials and Methods

This descriptive-analytical, cross-sectional study was conducted on patients with IBS referred to gastroenterology clinics in Shiraz, Iran, in 2021. The sample included 220 patients (132 women and 88 men) aged 18–55 years who met the Rome IV diagnostic criteria for IBS. Patients with severe psychiatric disorders, chronic organic gastrointestinal diseases, or unwillingness to participate were excluded.

Participants were recruited through convenience sampling and completed a set of validated self-report questionnaires:

1. Stressful Life Events Scale (Holmes and Rahe, 1967) – measuring the frequency and impact of major life events in the previous year.
2. Health-Promoting Lifestyle Profile II (HPLP-II; Walker, 1987) – assessing six lifestyle dimensions: nutrition, physical activity, health responsibility, spiritual growth, interpersonal relations, and stress management.
3. General Health Questionnaire (GHQ-28; Goldberg, 1972) – measuring physical health, anxiety/insomnia, social dysfunction, and depression as health indicators.

Ethical approval was obtained from the Ethics Committee of Shiraz University of Medical Sciences (IR.SUMS.REC.1400.151). After obtaining informed consent, participants completed questionnaires either in person or online.

Data were analyzed using descriptive statistics, Pearson correlation coefficients, and structural equation modeling (SEM) to test the hypothesized mediating role of HPL between stressful life events and health indicators. Goodness-of-fit indices (CFI, TLI, RMSEA, and χ^2/df) were used to assess model adequacy. Significance levels were set at $p < 0.05$.

Results

The mean age of participants was 36.8 ± 9.4 years, and 60% were female. Correlation analysis revealed that stressful life events were significantly and negatively associated with health-promoting lifestyle ($r = -0.43$, $p < 0.001$) and with health indicators ($r = -0.39$, $p < 0.001$). HPL was positively associated with better health indicators ($r = 0.52$, $p < 0.001$).

Structural equation modeling confirmed that HPL partially mediated the relationship between stressful life events and health indicators. The direct path from stressful life events to health indicators remained significant ($\beta = -0.24$, $p = 0.02$) even when HPL was included in the model, indicating partial mediation. The indirect effect through HPL was also significant ($\beta = -0.28$, $p = 0.001$).

Goodness-of-fit indices indicated that the proposed model adequately explained the observed data ($\chi^2/\text{df} = 2.31$, CFI = 0.95, TLI = 0.94, RMSEA = 0.06). Among the HPL dimensions, stress management ($\beta = 0.35$, $p < 0.001$) and interpersonal relations ($\beta = 0.29$, $p < 0.001$) showed the strongest associations with health indicators. Nutrition, physical activity, spiritual growth, and health responsibility were also significantly related but with smaller effect sizes (β range = 0.18–0.24, $p < 0.05$).

These findings suggest that patients who maintain a healthier lifestyle experience fewer adverse effects of stressful life events on their physical and psychological health.

Discussion and Conclusion

This study highlights the crucial role of adopting a health-promoting lifestyle in mitigating the negative impact

of stressful life events on health outcomes in patients with IBS. Individuals who engaged in better lifestyle practices—such as effective stress management, regular physical activity, and supportive interpersonal relationships—reported better physical, psychological, and social health despite exposure to stressors.

The results align with the salutogenic model, which posits that health-promoting behaviors enhance one's sense of coherence and capacity to cope with stress. By actively managing stress, patients may reduce autonomic arousal and neuroendocrine responses that exacerbate IBS symptoms. Strong interpersonal relationships provide emotional support, facilitate adherence to medical treatment, and buffer the effects of stress.

These findings have practical implications for clinical practice. Interventions designed to promote healthy lifestyle behaviors should be integrated into IBS management programs. Educational workshops and cognitive-behavioral strategies focusing on stress management and social support may improve patients' resilience and health outcomes.

Health-promoting lifestyle plays a significant mediating role in the relationship between stressful life events and health indicators among patients with IBS. Encouraging patients to adopt healthier lifestyle practices may not only reduce the adverse effects of stress but also enhance overall well-being. Implementing lifestyle-focused interventions alongside medical treatment could improve outcomes for this vulnerable population.