



The Impact of Illness Anxiety Disorder on Gastrointestinal Symptoms in Patients with Ankylosing Spondylitis: A Cross-Sectional Study

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Abstract

Background: Ankylosing Spondylitis (AS) often involves gastrointestinal (GI) symptoms that may not always be linked to inflammatory bowel disease. Illness Anxiety Disorder (IAD) can worsen symptom perception and reduce quality of life.

Objective: To assess the prevalence of IAD in AS patients with GI symptoms and explore its mediating role between GI symptoms and quality of life.

Methods: Two hundred AS patients completed the Health Anxiety Inventory (HAI), GI Symptom Rating Scale (GSRS), and AS Quality of Life questionnaire (ASQoL). Statistical analyses included correlation, regression, and mediation modeling.

Results: GI symptoms were present in 61% of patients, with 34% meeting IAD criteria. IAD severity correlated strongly with GI symptom burden ($r = 0.47$) and reduced quality of life ($r = -0.52$). Mediation analysis showed IAD partially mediates the effect of GI symptoms on quality of life (indirect effect $\beta = -0.19$).

Conclusion: Illness anxiety significantly contributes to perceived GI symptom burden and poor quality of life in AS. Integrated psychological screening is recommended.

Keywords: Ankylosing; Gastrointestinal; Spondylitis

Introduction

Ankylosing Spondylitis (AS) is a chronic inflammatory disease affecting the axial skeleton, often accompanied by extra-articular manifestations including gastrointestinal (GI) symptoms. Although up to 10% of AS patients develop inflammatory bowel disease (IBD), many experience functional GI symptoms without identifiable organic pathology. These symptoms frequently lead to increased psychological distress [1-3].

Illness Anxiety Disorder (IAD) is characterized by excessive fear of serious illness, often triggered or exacerbated by ambiguous symptoms [4-6]. In chronic illnesses like AS, IAD can worsen symptom interpretation and impair quality of life. This study aims to quantify IAD prevalence among AS patients with GI symptoms and evaluate its mediating role between GI symptom severity and health-related quality of life.

Methods

Participants

Two hundred AS patients (aged 18-65 years) were recruited from rheumatology and gastroenterology clinics. Diagnosis was confirmed by modified New York criteria. Patients with diagnosed IBD or other major gastrointestinal diseases were excluded [7].

Instruments

- **Health Anxiety Inventory (HAI):** Scores >20 indicate clinically significant illness anxiety [6].
- **GI Symptom Rating Scale (GSRS):** Measures GI symptom burden [8].
- **Ankylosing Spondylitis Quality of Life (ASQoL):** Assesses health-related quality of life [9].

Statistical analysis

Descriptive statistics and t-tests were used for group comparisons. Pearson correlations assessed associations. Multiple regression predicted quality of life. Mediation analysis was conducted using the PROCESS macro (Model 4).

Results

Demographics and Clinical Data

Characteristic	Value
Mean Age, years (SD)	41.6 (9.3)
Male, %	58
Disease Duration, years (SD)	7.4 (4.5)
NSAID Use, %	72
Biologic Therapy, %	46

Table a

GI Symptoms and Illness Anxiety

Group	n	%
AS patients with GI symptoms	122	61.0
Patients meeting IAD criteria	68	34.0
Both GI symptoms and IAD	51	25.5

Table b

Correlations

Variables	r	p Value
IAD severity and GI symptoms	0.47	<.001
IAD severity and ASQoL	-0.52	<.001

Table c

Regression Analysis Predicting Quality of Life

Predictor	β	p Value
GI symptom score	0.31	<.001
IAD score	0.44	<.001
ESR/CRP (inflammatory markers)	0.05	.48

Table d

Mediation Analysis

Mediation modeling revealed

- Path a (GI symptoms → IAD): $\beta = 0.47$
- Path b (IAD → Quality of Life): $\beta = -0.40$
- Direct effect (GI symptoms → Quality of Life): $\beta = -0.31$
- Indirect effect (mediation by IAD): $\beta = -0.19$ (95% CI, -0.27 to -0.10), indicating partial mediation

Discussion

The findings demonstrate that illness anxiety disorder is prevalent in AS patients experiencing GI symptoms and that illness anxiety amplifies perceived symptom burden and reduces quality of life. Objective inflammatory markers were not significantly associated with symptom burden or quality of life, highlighting the importance of psychosomatic factors in this population [10].

Integrated psychological assessment and cognitive-behavioral interventions should be considered in the management of AS patients with persistent GI complaints to improve overall outcomes [10].

Limitations

The study’s cross-sectional design limits causal inferences. Self-report measures may introduce bias. Longitudinal and interventional studies are needed to validate these findings.

Conclusion

Illness anxiety disorder partially mediates the relationship between gastrointestinal symptoms and quality of life in patients with ankylosing spondylitis. Addressing psychological distress in conjunction with physical symptoms may improve comprehensive care.

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