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Latent Profile Analysis of Demoralization Syndrome and Its Influencing Factors in Patients with Inflammatory Bowel Disease

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Abstract

Background Inflammatory bowel disease (IBD) is a chronic, relapsing disorder that imposes a substantial psychological burden on patients. Demoralization syndrome—characterized by helplessness, hopelessness, and loss of meaning and purpose—is common in chronic illness but remains largely underrecognized in IBD, where research has focused mainly on anxiety and depression. Its heterogeneity and associated influencing factors have not been examined in this population. This study aimed to identify latent profiles of demoralization syndrome in IBD patients, analyze the differences and influencing factors among these profiles, and provide evidence for individualized nursing interventions.

Methods A convenience sampling method was used to select 374 IBD patients admitted or followed up at a tertiary hospital in Jiangsu Province from October 2025 to February 2026. Data were collected using a general information questionnaire, the Demoralization Scale II (DS-II), the Resilience Scale for Inflammatory Bowel Disease (RS-IBD), the Social Support Rating Scale (SSRS), and the Self-Compassion Scale (SCS). Latent profile analysis (LPA) was performed to classify patients into different levels of demoralization. Univariate analysis and unordered multinomial logistic regression were conducted to identify factors associated with distinct demoralization profiles.

Results The demoralization levels of the 374 IBD patients were categorized into three profiles: mild demoralization-adaptation group (42.8%), moderate demoralization-ambivalent group (30.5%), and severe demoralization-despair group (26.7%). Univariate analysis revealed significant differences among the groups in age, education level, living arrangement, monthly household income, disease duration, disease activity level, psychological resilience, social support, and self-compassion ($P < 0.05$). Multivariate logistic regression analysis showed that, compared with the mild demoralization-adaptation group, the independent risk factor for the moderate demoralization-ambivalent group was disease activity level (OR = 1.485, $P < 0.05$), while social support (OR = 0.943, $P < 0.05$) and psychological resilience (OR = 0.963, $P < 0.001$) were protective factors. For the severe demoralization-despair group, disease activity level (OR = 1.495, $P < 0.05$) and social support (OR = 1.109, $P < 0.001$) were independent risk factors, whereas disease duration (OR = 0.641, $P < 0.05$) and psychological resilience (OR = 0.917, $P < 0.001$) were protective factors.

Conclusions There is significant heterogeneity in demoralization levels among IBD patients. Social support, psychological resilience, disease duration, and disease activity level are independent factors influencing moderate to severe demoralization. Clinicians should pay close attention to such patients and develop individualized intervention strategies according to different demoralization profiles to reduce their demoralization levels.

1. Introduction

Inflammatory bowel disease (IBD), including ulcerative colitis (UC) and Crohn's disease (CD), is a group of chronic, recurrent gastrointestinal inflammatory disorders. In recent years, the incidence and prevalence of IBD have been continuously increasing worldwide [1]. With the improvement of China's economy and the progression of industrialization, people's dietary structures and lifestyles have gradually shifted toward a Western pattern. It is estimated that by 2030, the number of IBD patients in China will rank first in Asia,

reaching 1.5 million[2]. Concurrently, multiple epidemiological studies have shown [3] that the incidence of mental and psychological problems in IBD patients is significantly higher than that in the general population. A global systematic review indicated that the incidence of anxiety in IBD patients can reach 32.1%, and the incidence of depression is approximately 25.2%[4].

Demoralization syndrome was first proposed by Frank JD in 1974, referring to a specific psychological distress state characterized by long-term mental lethargy, decreased interest, and low spirits caused by various negative life events, followed by feelings of helplessness, hopelessness, meaninglessness, subjective incompetence, and impaired self-esteem [5]. However, compared with anxiety and depression, demoralization syndrome is more "silent," which often leads to its confusion with other negative emotions or psychiatric symptoms and consequently overlooked by medical staff[6]. Kissane et al. [7, 8] clearly pointed out that demoralization syndrome is a psychiatric diagnosis that requires focused attention, as it not only seriously reduces patients' quality of life but may also affect treatment compliance and disease prognosis. Studies have shown [9] that approximately 27.4%–59.1% of patients with chronic diseases experience demoralization. Furthermore, Robson et al. [10] found that demoralization is associated with an increased risk of suicide, further highlighting the harmfulness of this psychological problem. IBD patients face severe symptom burdens such as abdominal pain and diarrhea caused by long-term intestinal inflammation and malnutrition. They may also experience body image changes and social exclusion due to disease recurrence and complications, which can trigger anxiety and depression, and even lead to loss of confidence in survival and the risk of developing demoralization syndrome. Currently, most research on demoralization syndrome has been conducted in cancer patients, while studies on IBD patients are scarce, mostly focusing on investigating anxiety and depression. Therefore, it is of great significance to carry out research on demoralization syndrome in IBD patients. This study employed latent profile analysis (LPA) to explore the heterogeneity of demoralization levels in IBD patients and analyze its influencing factors, aiming to provide a theoretical basis for clinical individualized nursing interventions.

2. Methods

2.1 Participants

A convenience sampling method was used to select IBD patients admitted or regularly followed up in a tertiary hospital in Jiangsu Province from October 2025 to February 2026. Inclusion criteria were: □ age ≥ 16 years; □ conscious and able to cooperate with the investigation; □ informed consent obtained; □ meeting the diagnostic criteria for IBD. Exclusion criteria were: □ severe mental illness or cognitive impairment; □ other serious diseases; □ existing or potential medical disputes. Based on Kendall's empirical rule [11], the sample size should be 10–20 times the number of independent variables. This study included 19 independent variables. Considering a 10% sample loss rate, the required sample size was 209–418 cases. Finally, 374 cases were included. This study was approved by the Ethics Committee of Jinling Hospital, Affiliated Hospital of Medical School, Nanjing University (2025DZKY-031-01).

2.2 Instruments

2.2.1 General Information Questionnaire

A self-designed questionnaire (Supplementary Material 1) was used, including sociodemographic data (gender, age, education, marital status, household registration, living arrangement, occupation, monthly family income) and IBD-related data (disease duration, body mass index [BMI], number of hospitalizations, history of intestinal surgery, medical insurance status, comorbidities,Nutritional Risk Screening 2002 [NRS-2002] score, and disease activity level).

2.2.2 Demoralization Scale II (DS-II)

The DS-II was simplified and revised by Robinson et al [12]. based on the original DS and later translated into Chinese and validated by Ou Na et al. [13]. It consists of 16 items in two dimensions: meaning and purpose (8 items) and distress and coping (8 items). A 3-point Likert scale is used, with a total score ranging from 0 to 32. A score ≤ 9 indicates mild demoralization, 10–19 indicates moderate demoralization, and ≥ 20 indicates severe demoralization. The Cronbach's α coefficient of the scale is 0.877 [13].

2.2.3 Resilience Scale for Inflammatory Bowel Disease (RS-IBD)

Compiled by Luo Dan in 2018[14], this scale evaluates the psychological resilience of IBD patients. It includes 25 items across six dimensions: disease management (4 items), active coping with difficulties (6 items), positive cognition (5 items), emotion control (4 items), family support (3 items), and peer support (3 items). A 5-point Likert scale is used, with total scores ranging from 25 to 125. Higher scores indicate stronger psychological resilience. The Cronbach's α coefficient is 0.941[14].

2.2.4 Social Support Rating Scale (SSRS)

Proposed by Xiao Shuiyuan [15] in 1994, this scale contains 10 items in three dimensions: objective support (3 items), subjective support (4 items), and utilization of social support (3 items). The total score ranges from 0 to 66, with higher scores indicating higher levels of social support. The Cronbach's α coefficient is 0.920 [15].

2.2.5 Self-Compassion Scale (SCS)

Compiled by Neff [16] and translated into Chinese by Chen Jian et al. [17], this scale contains 26 items across six dimensions: self-kindness (5 items), self-judgment (5 items), common humanity (4 items), isolation (4 items), mindfulness (4 items), and over-identification (4 items). It uses a 5-point Likert scale, with total scores ranging from 26 to 130. Higher scores indicate higher levels of self-compassion. The Cronbach's α coefficient is 0.920 [17].

2.3 Data Collection

Data were collected synchronously through online Wenjuanxing (a questionnaire platform) and offline paper questionnaires. Four trained nurses distributed and collected the questionnaires. Before the survey, a unified instruction was used to explain the purpose, significance, and filling method of the questionnaire, and informed consent was obtained. Paper questionnaires were collected on the spot, and their completeness and consistency were checked. For online questionnaires, research team members checked the results and communicated by phone in time if there were any questions.

2.4 Statistical Analysis

SPSS 26.0 was used for double data entry and general data analysis, and Mplus 8.3 was used for latent profile analysis. The item mean scores of each dimension of the DS-II were used as explicit variables. The number of categories was gradually increased from 1 to 4, and model fit was evaluated using AIC, BIC, aBIC, Entropy, LMR, and BLRT. A smaller AIC/BIC/aBIC value, an Entropy closer to 1, and $P < 0.05$ for LMR and BLRT indicated a better model fit. The optimal number of categories was determined based on actual clinical significance. Categorical data were described by frequency and percentage, and the chi-square test was used for comparison. Measurement data were non-normally distributed and described by median (interquartile range) [M(P25, P75)], and the Kruskal-Wallis H test was used for comparison among multiple groups. Variables with statistical significance ($P < 0.05$) from univariate analysis were selected for unordered multinomial logistic regression. By alternately changing the reference group (taking demoralization level 1 and level 3 as the reference, respectively), pairwise comparisons among each latent category were realized. The test level α was set at 0.05.

3. Results

3.1 General Data of IBD Patients

A total of 214 paper questionnaires were distributed, and 206 valid ones were recovered. 175 electronic questionnaires were distributed, and 168 valid ones were recovered. Finally, 389 questionnaires were distributed, and 374 valid ones were recovered, with an effective recovery rate of 96.14%. The age of the 374 subjects ranged from 16 to 79 years. Among them, 227 (60.7%) were male and 147 (39.3%) were female; 22 (5.88%) lived alone and 352 (94.12%) did not live alone; 195 (52.14%) had high school education or below, and 179 (47.86%) had college education or above; 169 (45.19%) had a disease duration < 5 years, 97 (25.93%) had 5–10 years, and 108 (28.88%) had > 10 years; 210 (56.15%) were in remission, 46 (12.30%) were in mild active stage, and 118 (31.55%) were in moderate-to-severe active stage.

3.2 Latent Profile Analysis of Demoralization Syndrome in IBD Patients

This study conducted a latent profile analysis (LPA) on demoralization syndrome in patients with inflammatory bowel disease (IBD), using the two dimensions of "meaning and purpose" and "distress and coping" as indicators. Starting from the initial model, the number of classes was gradually increased, and models with 1 to 4 classes were fitted sequentially. The results showed that as the number of classes increased, the AIC, BIC, and aBIC values continuously decreased. Furthermore, the Entropy value was optimal for the 3-class model (Model 3), which was thus identified as the optimal latent profile(Table 1).

Based on the scores of the three latent profiles of demoralization syndrome in IBD patients on each dimension of the DS-II, the categories were named as follows. Category 1 had low scores on both the “Meaning and Purpose” and “Distress and Coping” dimensions. Patients in this category showed good adaptation to the disease, with a strong sense of purpose and coping ability, representing the mildest level of demoralization. Therefore, it was named the mild demoralization-adaptation group (C1, n = 160; Meaning and

Purpose: 1.88 ± 0.15, Distress and Coping: 2.75 ± 0.22). Category 2 had moderate scores on both dimensions. Patients experienced certain distress and coping difficulties but still retained some sense of meaning and purpose. Therefore, it was named the moderate demoralization-ambivalent group (C2, n = 114; Meaning and Purpose: 7.06 ± 0.27, Distress and Coping: 7.33 ± 0.24). Category 3 had high scores on both dimensions. Patients not only experienced intense distress and coping failure, but also severe loss of meaning and purpose, representing the most severe level of demoralization. Therefore, it was named the severe demoralization-despair group (C3, n = 100; Meaning and Purpose: 12.06 ± 0.20, Distress and Coping: 12.18 ± 0.22). The results showed a significant gradient distribution in scores on the two dimensions across the three categories, with the most pronounced meaninglessness and coping impairment observed in the severe demoralization group (See Fig. 1).

Table 1
Fitting indices of latent profile models for demoralization syndrome in IBD patients (n = 374).

Model	AIC	BIC	aBIC	Entropy	*P* value		Class probability
					LMR	BLRT	
1	4362.099	4377.796	4365.105	—	—	—	—
2	3969.513	3996.983	3974.774	0.848	<0.001	<0.001	0.551/0.449
3	3798.547	3837.789	3806.062	0.893	<0.001	<0.001	0.428/0.305/0.267
4	3768.752	3819.767	3778.522	0.827	0.010	<0.001	0.243/0.259/0.222/0.276

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; aBIC = adjusted Bayesian Information Criterion; Entropy = entropy index; LMR = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrap Likelihood Ratio Test.

Note

C1: Mild demoralization-adaptation group (42.8%); C2: Moderate demoralization-ambivalent group (30.5%); C3: Severe demoralization-despair group (26.7%).

3.3 Univariate Analysis of Demographic and Clinical Characteristics Across Latent Profiles

Nineteen candidate independent variables were included in the univariate analysis. The results revealed that age, educational level, living arrangement, monthly household income, disease duration, disease activity, psychological resilience score, social support score, and self-compassion score all differed significantly across the three latent profiles of demoralization syndrome in patients with inflammatory bowel disease (IBD) (all $P < 0.05$) (Table 2).

Table 2
Univariate analysis of latent categories of demoralization syndrome in patients with inflammatory bowel disease

Variable	Demoralization Level 1 (n = 160)	Demoralization Level 2 (n = 114)	Demoralization Level 3 (n = 100)	χ^2 or H	P
Age [years, M (P25,P75)]	37.0(29.0, 47.0)	43.0(34.0, 52.0)	36.0(31.5, 53.0)	8.770	0.012
BMI [kg/m², M (P25, P75)]	20.1(18.5, 21.9)	19.4(18.5, 21.2)	20.4(18.7,22.0)	3.102	0.212
Sex [n (%)]				5.437	0.066
Male	99(61.88)	60(52.63)	68(68.00)		
Female	61(38.12)	54(47.37)	32(32.00)		
Education level [n (%)]				13.843	0.001
High school or below	66(41.25)	66(57.89)	63(63.00)		
College or above	94(58.75)	48(42.11)	37(37.00)		
Marital status [n (%)]				1.808	0.771
Unmarried	47(29.38)	31(27.19)	26(26.00)		
Married	108(67.50)	76(66.67)	70(70.00)		
Divorced/Widowed	5(3.13)	7(6.14)	4(4.00)		
Household registration [n (%)]				5.478	0.065
Urban	123(76.88)	75(65.79)	78(78.00)		
Rural	37(23.13)	39(34.21)	22(22.00)		
Residence [n (%)]				6.598	0.037
Living alone	7(4.38)	12(10.53)	3(3.00)		
Not living alone	153(95.63)	102(89.47)	97(97.00)		
Occupation [n (%)]				8.222	0.084
Student	18(11.25)	7(6.14)	4(4.00)		
Retired/Resigned	97(60.63)	65(57.02)	69(69.00)		
Flexible employment	45(28.13)	42(36.84)	27(27.00)		

Variable	Demoralization Level 1 (n = 160)	Demoralization Level 2 (n = 114)	Demoralization Level 3 (n = 100)	χ² or H	P
Monthly household income [CNY, n (%)]				14.616	0.006
<3000	32(20.00)	33(28.95)	23(23.00)		
3000 ~ 8000	73(45.63)	65(57.02)	51(51.00)		
>8000	55(34.38)	16(14.04)	26(26.00)		
Duration of diagnosis [years, n (%)]				23.772	<0.001
<5	76(47.50)	41(35.96)	52(52.00)		
5 ~ 10	32(20.00)	29(25.44)	36(36.00)		
>10	52(32.50)	44(38.60)	12(12.00)		
Number of hospitalizations [n (%)]				3.110	0.211
First time	10(6.25)	3(2.63)	8(8.00)		
Multiple times	150(93.75)	111(97.37)	92(92.00)		
History of intestinal surgery [n (%)]				5.183	0.075
Yes	107(66.88)	84(73.68)	59(59.00)		
No	53(33.13)	30(26.32)	41(41.00)		
Medical insurance [n (%)]				4.984	0.083
Yes	156(97.50)	107(93.86)	99(99.00)		
No	4(2.50)	7(6.14)	1(1.00)		
Other comorbidities [n (%)]				4.830	0.089
Yes	44(27.50)	35(30.70)	18(18.00)		
No	116(72.50)	79(69.30)	82(82.00)		
NRS-2002 score [n (%)]				5.438	0.245
<3	47(29.38)	26(22.81)	23(23.00)		
3 ~ 4	89(55.63)	67(58.77)	67(67.00)		
≥5	24(15.00)	21(18.42)	10(10.00)		

Variable	Demoralization Level 1 (n = 160)	Demoralization Level 2 (n = 114)	Demoralization Level 3 (n = 100)	χ^2 or H	P
Disease activity [n (%)]				41.391	<0.001
Remission	110(68.75)	62(54.39)	38(38.00)		
Mild	15(9.38)	5(4.39)	26(26.00)		
Moderate	35(21.88)	47(41.23)	36(36.00)		
Psychological resilience score [points, M (P25, P75)]	103.00(96.00, 115.50)	92.50(80.00, 103.00)	86.50(79.50, 96.00)	70.149	<0.001
Social support score [points, M (P25, P75)]	31.00(26.00, 39.50)	27.00(23.00, 32.00)	42.00(35.00, 47.00)	90.191	<0.001
Self-compassion score [points, M (P25, P75)]	81.50(75.00, 91.00)	78.00(74.00, 82.00)	91.00(79.00, 98.50)	37.449	<0.001

3.4 Multivariate Analysis of Latent Profiles

The three latent classes of demoralization derived from the Latent Profile Analysis (LPA) served as the dependent variable. To comprehensively present all pairwise comparisons, a multinomial logistic regression analysis was first conducted using the "mild demoralization-adaptation group" as the reference category; the results are presented in Table 3. Subsequently, a second analysis was performed using the "severe demoralization-despair group" as the reference to directly compare the severe and moderate demoralization groups, with results shown in Table 4.

The independent variables were assigned values as follows: Age (raw value); Educational level (High school or below = 1, College or above = 2); Living arrangement (Living alone = 1, Not living alone = 2); Monthly household income (< ¥3,000 = 1, ¥3,000–8,000 = 2, > ¥8,000 = 3); Disease duration (< 5 years = 1, 5–10 years = 2, > 10 years = 3); Disease activity (Remission = 1, Mild activity = 2, Moderate-to-severe activity = 3); Psychological resilience score (raw value); Social support score (raw value); Self-compassion score (raw value).

The results of the multivariate logistic regression analysis indicated that disease activity, psychological resilience, and social support were independent predictors for the "moderate demoralization-ambivalent group"(with disease activity as a risk factor, and social support and psychological resilience as protective factors). Furthermore, disease duration, disease activity, psychological resilience, and social support were independent predictors for the "severe demoralization-despair group" (with disease activity and social support as risk factors, and disease duration and psychological resilience as protective factors).

Table 3
Logistic regression analysis of latent profiles of demoralization syndrome in patients with inflammatory bowel disease

Variable	Moderate demoralization-ambivalent group				Severe demoralization-despair group			
	β value	OR	95%CI	P value	βvalue	OR	95%CI	P value
Constant	5.743	-	-	< 0.001	3.797	-	-	0.028
Age	0.017	1.017	0.993–1.042	0.164	0.000	1.000	0.971–1.029	0.990
College education or above	-0.227	0.797	0.422–1.507	0.486	-0.404	0.668	0.316–1.410	0.290
Living alone	0.718	2.051	0.667–6.307	0.210	-0.029	0.971	0.162–5.831	0.974
Monthly household income	-0.369	0.691	0.453–1.055	0.087	-0.236	0.790	0.482–1.295	0.350
Disease duration	-0.029	0.971	0.697–1.354	0.863	-0.444	0.641	0.417–0.986	0.043
Disease activity	0.396	1.485	1.095–2.015	0.011	0.402	1.495	1.039–2.151	0.030
Social support score	-0.059	0.943	0.909–0.978	0.002	0.103	1.109	1.063–1.156	< 0.001
Self-compassion score	-0.011	0.989	0.961–1.018	0.448	0.016	1.017	0.985–1.049	0.304
Psychological resilience score	-0.038	0.963	0.945–0.982	< 0.001	-0.087	0.917	0.896–0.938	< 0.001

Note. Reference category: Mild demoralization-adaptation group. CI = Confidence Interval; OR = Odds Ratio. The constant for the moderate demoralization-ambivalent group: $P < 0.001$; the constant for the severe demoralization-despair group: $P = 0.028$.

Table 4
Logistic regression analysis of latent profiles of demoralization syndrome in patients with inflammatory bowel disease

Variable	Mild demoralization-adaptation group				Moderate demoralization-ambivalent group			
	βvalue	OR	95%CI	P value	βvalue	OR	95%CI	P value
Constant	-3.797	-	-	0.028	1.946	-	-	0.300
Age	0.000	1.000	0.972–1.030	0.990	0.017	1.017	0.987–1.049	0.271
College education or above	0.404	1.497	0.709–3.160	0.290	0.177	1.194	0.530–2.690	0.670
Living alone	0.029	1.030	0.171–6.184	0.974	0.748	2.112	0.371–12.020	0.399
Monthly household income	0.236	1.266	0.772–2.077	0.350	-0.133	0.875	0.515–1.486	0.622
Disease duration	0.444	1.559	1.014–2.396	0.043	0.415	1.514	0.966–2.372	0.070
Disease activity	-0.402	0.669	0.465–0.962	0.030	-0.006	0.994	0.680–1.451	0.974
Social support score	-0.103	0.902	0.865–0.940	< 0.001	-0.162	0.850	0.811–0.891	< 0.001
Self-compassion score	-0.016	0.984	0.953–1.015	0.304	-0.027	0.973	0.939–1.008	0.128
Psychological resilience score	0.087	1.091	1.066–1.116	< 0.001	0.049	1.051	1.026–1.076	< 0.001

Note: Taking the severe demoralization-despair group as the reference, the P value for the constant of the mild demoralization-adaptation group was 0.028, and the P value for the constant of the moderate demoralization-ambivalent group was 0.300.

4. Discussion

4.1 Characteristics of Latent Profile Categories of Demoralization Syndrome in Patients with IBD

In this study, Latent Profile Analysis (LPA) identified three distinct categories of demoralization syndrome among IBD patients: the mild demoralization-adaptation group, the moderate demoralization-ambivalent group, and the severe demoralization-despair group. This indicates significant population heterogeneity in the levels of demoralization syndrome among IBD patients, which is consistent with findings from other studies [18–19].

The mild demoralization-adaptation group accounted for 42.8% of the sample. Patients in this category exhibited overall lower levels of demoralization, possessed good psychological adjustment capabilities, and held a correct understanding of IBD. They were able to autonomously regulate negative emotions and accept the lifestyle changes brought about by the disease, representing a relatively psychologically healthy subgroup within the IBD population.

The moderate demoralization-ambivalent group constituted 30.5%. Patients in this category were in a transitional stage of demoralization development, representing a critical window for clinical psychological intervention. Although not completely mired in despair, these patients already exhibited psychological exhaustion and insufficient motivation to cope, displaying an "ambivalent psychology" characterized by a desire for active treatment yet feeling physically and mentally drained. They were experiencing meaninglessness and inner distress; without timely and targeted intervention, the progression model of demoralization syndrome suggests they are highly susceptible to transitioning into the severe demoralization-despair group.

The severe demoralization-despair group comprised 26.7%. Patients in this category had the highest levels of demoralization, generally losing their sense of meaning in life and treatment. They were prone to breeding negative emotions such as helplessness, despair, and self-denial, and experienced extremely high levels of psychological distress, making them a high-risk group requiring prioritized clinical psychological intervention. Therefore, clinical nurses should accurately identify IBD patients at high risk for severe demoralization and implement a stratified nursing intervention model based on latent profiles.

4.2 Factors Influencing the Latent Profiles of Demoralization Syndrome in Patients with IBD

4.2.1 Social Support

The results of this study show that social support plays differential roles across different demoralization profiles: it acts as a protective factor for the moderate demoralization-ambivalent group, but transforms into a risk factor for the severe demoralization-despair group.

The reasons are analyzed as follows: patients with moderate demoralization still retain a certain degree of sense of meaning in life and self-worth. Effective family care, social companionship, and professional support can effectively fill their psychological void and alleviate negative emotions, which is consistent with the findings of most studies [20–21]. However, for patients already in a state of severe demoralization and despair with extremely low self-worth, high-frequency visits, excessive concern, and didactic encouragement from the outside world are easily interpreted as pity and sympathy. This adds to their psychological burden and further exacerbates despair. At the same time, existing scales mostly focus on counting the sources and quantity of social support, failing to distinguish the quality of support. Mismatched and ineffective support can cause secondary psychological harm to patients with severe psychological imbalance. Research by Gray et al. [22] also confirmed that unhelpful social support can become a work stressor in stressful situations. Similarly, social support may act as a risk factor for patients with severe demoralization, imposing greater

psychological pressure on them. This suggests that clinical staff need to formulate differentiated social support guidance plans based on the patient's demoralization level and individuality.

4.2.2 Psychological Resilience

The results of this study indicate that psychological resilience is a common protective factor for both the moderate demoralization-ambivalent group and the severe demoralization-despair group. Psychological resilience refers to an individual's ability to protect or recover themselves when facing adverse situations such as adversity, trauma, and disease [23]. Studies have shown [24] that higher levels of psychological resilience in IBD patients are associated with lower incidence rates of anxiety and depression. As a psychological resilience capacity in the face of stressful events, psychological resilience can help patients buffer the negative impacts of the disease. The higher the level of psychological resilience, the stronger the patient's stress resistance and self-regulation abilities when facing disease-related setbacks. This enables rapid alleviation of negative emotions and rebuilding of treatment confidence, thereby reducing the occurrence of psychological problems such as demoralization and despair. For IBD patients, high psychological resilience can help them accept the fact of being ill and establish correct coping styles for the disease, serving as an effective condition for reducing the occurrence of demoralization syndrome. Research results suggest that family intervention, the Roy adaptation nursing model, and the Teach-back health education model can improve patients' psychological resilience levels and reduce negative emotions such as anxiety and depression [25–27]. Therefore, clinical practice can draw on the above nursing intervention measures to enhance the psychological resilience of IBD patients.

4.2.3 Duration of Disease Diagnosis

This study shows that the duration of disease diagnosis is an independent protective factor for the severe demoralization-despair group, meaning that a longer diagnosis time is associated with a lower risk of patients developing severe demoralization, which is consistent with the research results of Gan et al. [28]. Analyzing from the perspective of psychological adaptation patterns of chronic diseases, newly diagnosed IBD patients find it difficult to accept the reality of lifelong illness in the short term, easily generating strong acute psychological stress, making this a high-incidence stage for severe demoralization. As the disease course prolongs, patients gradually complete psychological adjustment and accept the disease. Simultaneously, they accumulate rich self-management experience, proficiently master related skills such as diet, medication, and symptom recognition, and significantly improve their self-efficacy. This enables them to calmly cope with disease changes and complete the psychological transition from stress collapse to stable adaptation. Therefore, clinical medical staff should focus on IBD patients with shorter disease diagnosis times, screen their psychological status early, intervene with psychological interventions in advance, and prevent the occurrence of severe demoralization syndrome.

4.2.4 Disease Activity

This study found that disease activity is a common independent risk factor for both the moderate demoralization-ambivalent group and the severe demoralization-despair group. Higher disease activity is associated with a higher risk of patients entering moderate or high demoralization. IBD is a chronic intestinal disease that is difficult to cure. Its clinical manifestations can be divided into remission and active phases, with the active phase further categorized into mild, moderate, and severe levels. IBD is characterized by the

alternation of active and remission phases. Patients often experience intestinal symptoms such as abdominal distension, mucopurulent bloody stools, diarrhea, and hematochezia, as well as extra-intestinal manifestations like spondyloarthritis and oral ulcers. Studies have shown that IBD patients in the active phase experience more symptoms, more severe conditions, and more obvious negative emotions [29–30]. Repeated exacerbations of the condition and frequent hospitalizations not only increase the economic burden on patients but also accumulate negative emotions over the long term, ultimately inducing demoralization syndrome. Currently, the treatment of IBD includes medication, surgery, nutrition, and long-term self-management by patients. Therefore, doctors, nurses, and patients should collaborate to formulate individualized treatment plans and strengthen symptom management for IBD patients during the active phase of the disease, thereby reducing the occurrence of demoralization syndrome.

5. Conclusion

IBD patients' demoralization levels have significant heterogeneity. Social support, psychological resilience, disease duration, and disease activity level are independent influencing factors for moderate to severe demoralization. Individualized interventions should be developed based on different profiles. This single-center cross-sectional study may have limitations; future multi-center longitudinal studies are needed.

Declarations

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Authors' contributions

Ruting Shen and Xing Zeng contributed to conception and study design. Ruting Shen, Lifang Xie, Yunyun Huang, and Wei Yan contributed to data collection and organization. Ruting Shen and Xing Zeng contributed to data verification, statistical analysis, and interpretation of data. Ruting Shen, Xing Zeng, Yehua Xie, and Wei Yan contributed to drafting and revising of the final manuscript. All authors read and approved the final manuscript.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding authors.

Ethics approval and consent to participate

This study was approved by the Ethics Committee of Jinling Hospital, Affiliated Hospital of Medical School, Nanjing University (Approval No. 2025DZKY-031-01) and was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from all participants. For participants aged 16–17 years, written informed consent was obtained from both the participants and their legal guardians.

Clinical trial number

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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Figures

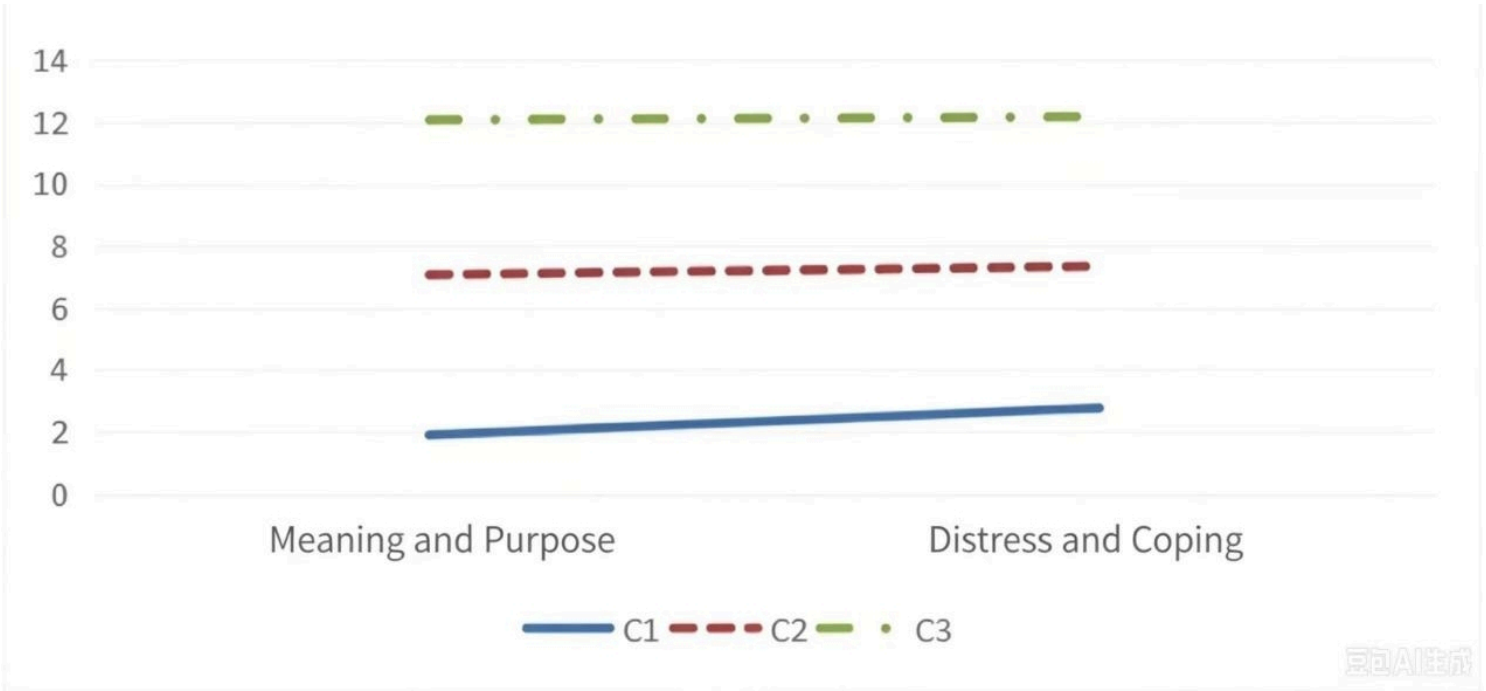

Figure 1

Characteristic distribution of the three latent profiles of demoralization syndrome in patients with inflammatory bowel disease

Note. C1: Mild demoralization-adaptation group (42.8%); C2: Moderate demoralization-ambivalent group (30.5%); C3: Severe demoralization-despair group (26.7%).

Supplementary Files

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- SupplementaryMaterial1.doc