

SUPPLEMENTARY DATA

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4 **Fatigue is a systemic extraintestinal disease manifestation largely independent of disease activity, chronicity, and nutritional**
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6 **deficiencies in inflammatory bowel disease**
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Table S1: Missing data for each variable

Variables	Missing data, total (%)
Female	0
Age	0
Disease	0
Disease duration	1.6
Type of biologic therapy	0
Treatment duration of biologic therapy	0.4
Number of previous biologic therapies	1.6
Concomitant immunomodulators	7
Number of systemic corticosteroid treatments	14.4
Disease activity (self-reported)	0.7
Previous use of thiopurine	2.7
Body mass index	11.7
Other (chronic) diseases	0
Surgery	1.34
C-reactive protein	11
Hemoglobin	11.7
Vitamin B12	14
Vitamin D	20.7
Iron	14.7
Ferritin	14.3
Fecal calprotectin	49
Endoscopy	72
Magnetic Resonance Imaging	48
Smoking	2
Fatigue on visual analogue scale	5
Short health scale VAS (0–10)	0
S-IBDQ ^a	0.7
EQ-5D-5L	1.7

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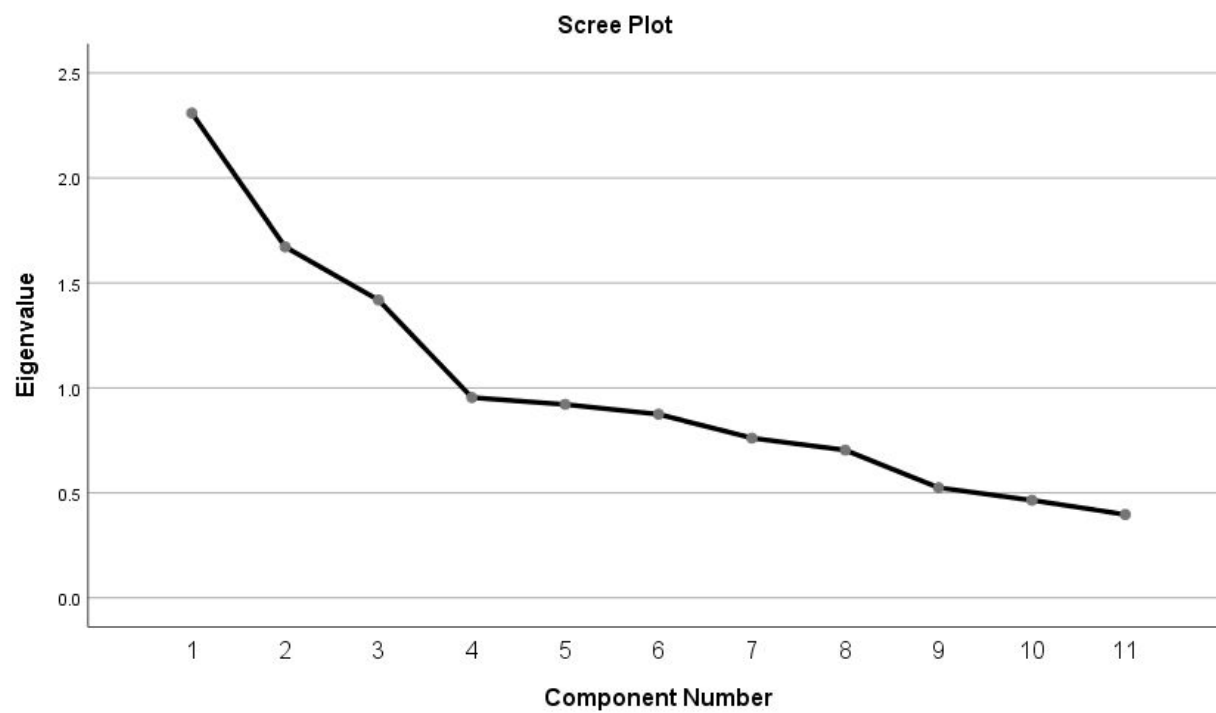
Figure S1: Primary principal component analysis, scree plot

Figure 1: Three components with eigenvalue >1 were identified.

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Table SII: Total Variance Explained primary principal component analysis

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.309	20.989	20.989	2.309	20.989	20.989	2.287	20.791	20.791
2	1.672	15.196	36.185	1.672	15.196	36.185	1.588	14.436	35.227
3	1.418	12.895	49.081	1.418	12.895	49.081	1.524	13.854	49.081
4	.954	8.675	57.756						
5	.921	8.375	66.131						
6	.874	7.950	74.081						
7	.761	6.919	80.999						
8	.704	6.398	87.397						
9	.525	4.770	92.168						
10	.465	4.225	96.392						
11	.397	3.608	100.000						

Extraction Method: Principal Component Analysis.

Table SIII: Total Variance Explained – Crohn's disease

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.593	23.571	23.571	2.593	23.571	23.571	2.231	20.279	20.279
2	1.713	15.571	39.142	1.713	15.571	39.142	1.736	15.778	36.057
3	1.238	11.254	50.396	1.238	11.254	50.396	1.506	13.694	49.751
4	1.032	9.385	59.781	1.032	9.385	59.781	1.103	10.030	59.781
5	.936	8.512	68.293						
6	.821	7.466	75.759						
7	.758	6.895	82.654						
8	.632	5.743	88.397						
9	.512	4.652	93.049						
10	.455	4.137	97.187						
11	.309	2.813	100.000						

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Extraction Method: Principal Component Analysis.

Table SIV: KMO and Bartlett's Test for Crohn's Disease

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.646
Bartlett's Test of Sphericity	Approx. Chi-Square	106.921
	df	55
	Sig.	.000

Table SV: Rotated Component Matrix for Crohn's disease

	Component			
	1	2	3	4
duration_disease	.846	.212	-.015	.125
surgery_total	.708	-.243	.088	.136
age	.639	.078	-.131	-.104
biologic_previously_number	.612	.395	.103	-.061
dvit	-.157	.758	-.095	-.201
bvit	.408	.632	.082	.015
steroid_systemic_number	.173	.598	-.042	.253
crp	-.077	-.035	.797	.011
Disease_activity_converted	.058	.023	.730	-.029
iron	-.006	.258	-.363	.715
Chronic_disease_no	.037	-.263	.391	.662

Extraction Method: Principal Component Analysis.

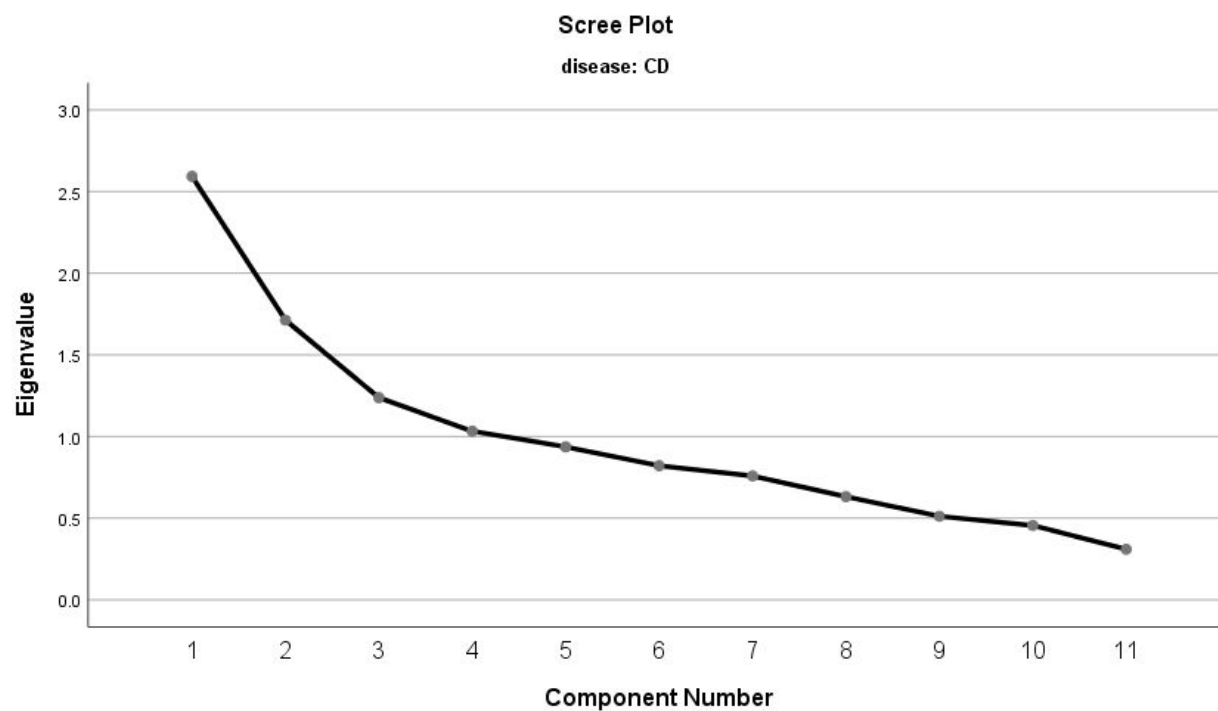
Rotation Method: Varimax with Kaiser Normalization.

a. disease = CD

b. Rotation converged in 7 iterations.

c. Only cases for which FACIT_score <= 39 (FILTER) = Selected are used in the analysis phase.

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Figure S2: Sub-principal component analysis of Crohn's disease, scree plot**Table SVI: KMO and Bartlett's Test for PCA in ulcerative colitis**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.412
Bartlett's Test of Sphericity	Approx. Chi-Square	51.541
	df	55
	Sig.	.608

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Table SVII: Total Variance Explained for PCA in ulcerative colitis

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.959	17.810	17.810	1.959	17.810	17.810	1.747	15.880	15.880
2	1.667	15.155	32.965	1.667	15.155	32.965	1.636	14.877	30.758
3	1.522	13.839	46.804	1.522	13.839	46.804	1.414	12.858	43.616
4	1.173	10.663	57.467	1.173	10.663	57.467	1.372	12.471	56.087
5	1.133	10.299	67.766	1.133	10.299	67.766	1.285	11.679	67.766
6	.978	8.892	76.658						
7	.845	7.686	84.344						
8	.546	4.968	89.312						
9	.529	4.809	94.121						
10	.409	3.720	97.841						
11	.237	2.159	100.000						

Extraction Method: Principal Component Analysis (PCA)

Table SVIII: Rotated Component Matrix for PCA in ulcerative colitis

	Component				
	1	2	3	4	5
crp	.778	-.175	-.383	.031	.012
iron	-.744	.044	-.134	-.029	.144
duration_disease	-.044	.842	.099	-.010	.083
steroid_systemic_number	-.224	.711	-.183	.151	-.125
dvit	.317	.454	.143	-.363	.321
bvit	.350	.261	-.754	.084	-.107
Chronic_disease_no	.134	.121	.715	.146	-.006
surgery_total	-.038	.109	.090	.867	.019
Disease_activity_converted	.503	-.066	.040	.652	.279
biologic_previously_number	.194	.194	.182	-.096	-.810
age	.048	.215	.252	.038	.626

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Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

For Peer Review Only