

Supplementary material

Impact of *Heyndrickxia (Bacillus) coagulans* GBI-30, 6086 (BC30) probiotic on gastrointestinal function in healthy adults: A randomized controlled trial.

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Supplementary Table S1. CONSORT 2010 Checklist.

Item			Reported: page /fig/table
Section/Topic	Checklist item		
Title and abstract	1a	Identification as a randomised trial in the title	<u>1</u>
	1b	Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts)	<u>1</u>
Introduction			
Background and objectives	2a	Scientific background and explanation of rationale	<u>2-3</u>
	2b	Specific objectives or hypotheses	<u>3</u>
Methods			
Trial design	3a	Description of trial design (such as parallel, factorial) including allocation ratio	<u>3</u>
	3b	Important changes to methods after trial commencement (such as eligibility criteria), with reasons	<u>7</u>
Participants	4a	Eligibility criteria for participants	<u>4</u>
	4b	Settings and locations where the data were collected	<u>3</u>
Interventions	5	The interventions for each group with sufficient details to allow replication, including how and when they were actually administered	<u>5</u>
Outcomes	6a	Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed	<u>5-6</u>
	6b	Any changes to trial outcomes after the trial commenced, with reasons	<u>7</u>
Sample size	7a	How sample size was determined	<u>7</u>
	7b	When applicable, explanation of any interim analyses and stopping guidelines	<u>na</u>
Randomisation:			
Sequence generation	8a	Method used to generate the random allocation sequence	<u>4</u>
	8b	Type of randomisation; details of any restriction (such as blocking and block size)	<u>4</u>
Allocation concealment mechanism	9	Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned	<u>4</u>
Implementation	10	Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions	<u>4</u>
Blinding	11a	If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how	<u>4</u>
	11b	If relevant, description of the similarity of interventions	<u>5</u>
Statistical methods	12a	Statistical methods used to compare groups for primary and secondary outcomes	<u>7</u>
	12b	Methods for additional analyses, such as subgroup analyses and adjusted analyses	<u>7</u>
Results			
Participant flow	13a	For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome	<u>7, Figure 1</u>
	13b	For each group, losses and exclusions after randomisation, together with reasons	<u>Figure 1</u>

Recruitment	14a	Dates defining the periods of recruitment and follow-up	3
	14b	Why the trial ended or was stopped	na
Baseline data	15	A table showing baseline demographic and clinical characteristics for each group	8, Table 1
Numbers analysed	16	For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups	8, Figure 1
Outcomes and estimation	17a	For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval)	9-14, Tables 2-4, Fig 2
	17b	For binary outcomes, presentation of both absolute and relative effect sizes is recommended	9, Table 2
Ancillary analyses	18	Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory	8-13, Table 2-4, Supp Tables S2-S4
Harms	19	All important harms or unintended effects in each group (for specific guidance see CONSORT for harms)	14, Supp Table S5
Discussion			
Limitations	20	Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses	16
Generalisability	21	Generalisability (external validity, applicability) of the trial findings	16
Interpretation	22	Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence	17
Other information			
Registration	23	Registration number and name of trial registry	4
Protocol	24	Where the full trial protocol can be accessed, if available	4
Funding	25	Sources of funding and other support (such as supply of drugs), role of funders	17

Supplementary Table S2. Comparison of Severity Of Dyspepsia Assessment (SODA) subgroup scores for BC30 and control groups.

	Day -14 to -1	Weeks 1-2	Weeks 3-4	Absolute change (final-basal)	Trend over time difference aBeta [95% CI]
Dyspepsia					
BC30	1.14 (0.44)	1.16 (0.50)	1.04 (0.19)	-0.11 (0.41)	-0.004 [-0.045, 0.037]
Control §	1.20 (0.49)	1.20 (0.49)	1.11 (0.37)	-0.09 (0.35)	
P value	0.404	0.43	0.228	0.767	0.846
Heartburn					
BC30	1.11 (0.31)	1.12 (0.33)	1.09 (0.35)	-0.02 (0.45)	0.005 [-0.030,0.039]
Control	1.07 (0.26)	1.05 (0.23)	1.04 (0.19)	-0.04 (0.27)	
P value	0.528	0.197	0.408	0.996	0.792
Reflux					
BC30	1.14 (0.35)	1.18 (0.51)	1.09 (0.35)	-0.05 (0.40)	-0.009 [-0.041, 0.024]
Control	1.11 (0.31)	1.11 (0.37)	1.09 (0.35)	-0.02 (0.23)	
P value	0.594	0.403	0.979	0.551	0.594
Nausea					
BC30	1.05 (0.23)	1.05 (0.23)	1.02 (0.13)	-0.04 (0.19)	-0.004 [-0.020, 0.011]
Control	1.05 (0.23)	1.04 (0.19)	1.04 (0.19)	-0.02 (0.13)	
P value	0.982	0.664	0.55	0.571	0.572

Data are mean (SD), N(%), § Significant intragroup changes (Friedman's or Cochran's test p<0.05)

Supplementary Table S3. Intestinal microbiome diversity parameters for BC30 and control groups.

	Day -14 to -1	Weeks 1-2	Weeks 3-4	Absolute change (final-basal)	Trend over time difference aBeta [95% CI]
Observed species (mean and standard deviation)					
BC30§§	722.02 (317.40)	635.95 (181.46)	523.12 (114.83)	-198.89 (362.79)	27.38 [-9.17, 63.92]
Control §§	817.78 (352.70)	639.96 (197.72)	509.38 (120.76)	-308.40 (406.78)	
P value	0.123	0.941	0.367	0.089	0.142
Shannon index					
BC30 §§	5.79 (0.52)	5.46 (0.56)	5.67 (0.57)	-0.13 (0.58)	0.03 [-0.04, 0.09]
Control §	5.84 (0.77)	5.49 (0.60)	5.60 (0.64)	-0.24 (0.77)	
P value	0.606	0.8	0.399	0.652	0.392
Simpson index					
BC30 §	0.94 (0.03)	0.93 (0.05)	0.94 (0.03)	-0.00 (0.03)	0.00 [-0.01, 0.00]
Control §	0.94 (0.04)	0.93 (0.03)	0.94 (0.04)	0.00 (0.04)	
P value	0.743	0.866	0.811	0.399	0.491
Chao1 index					
BC30§	923.74 (460.89)	769.01 (267.15)	611.31 (169.16)	-312.43 (539.75)	25.42 [-25.92 , 76.77]
Control §§	1009.19 (461.05)	762.64 (268.63)	595.07 (181.89)	-414.12 (550.28)	
P value	0.336	0.991	0.389	0.184	0.332

§ Significant intragroup changes (Friedman's or Cochran's test $p < 0.05$), §§ Significant intragroup changes (Friedman's or Cochran's test $p < 0.001$).

Supplementary Table S4. Comparison of quality-of-life scores (SF-36v2) for BC30 and control groups.

	Day -14 to -1	Weeks 1-2	Weeks 2-4	Absolute change (final – basal)	Trend of time difference aBeta [95% CI]
Physical functioning score					
BC30	95.89 (6.40)	96.43 (7.18)	97.32 (6.81)	1.43 (4.01)	0.347 [-0.302, 0.997]
Control	96.18 (6.59)	96.82 (6.55)	97.00 (6.21)	0.82 (4.49)	
P value	0.646	0.953	0.515	0.53	0.294
Physical health score					
BC30	98.21 (5.29)	97.77 (6.24)	98.55 (4.30)	0.33 (6.13)	0.208 [-0.495, 0.911]
Control	97.95 (6.48)	98.07 (5.36)	98.52 (4.65)	0.57 (7.24)	
P value	0.668	0.829	0.829	0.986	0.561
Pain score					
BC30	94.82 (8.98)	95.18 (9.00)	97.25 (7.86)	2.43 (10.53)	-0.736 [-2.214, 0.743]
Control	94.55 (14.14)	95.73 (12.28)	96.76 (9.17)	2.22 (10.79)	
P value	0.374	0.178	0.927	0.79	0.329
Health score					
BC30	89.02 (9.13)	89.75 (8.96)	89.55 (8.72)	0.54 (5.01)	-0.036 [-0.766, 0.694]
Control	89.60 (10.28)	89.76 (10.06)	90.09 (10.74)	0.49 (5.27)	
P value	0.521	0.613	0.243	0.971	0.923
Energy score					

BC30§	82.41 (9.14)	82.77 (8.94)	83.93 (8.78)	1.52 (4.56)	
Control	83.36 (8.77)	83.82 (9.02)	84.27 (8.41)	0.91 (4.72)	-0.028 [-0.769, 0.713]
P value	0.392	0.312	0.773	0.207	0.941
Social score					
BC30	97.10 (7.15)	97.10 (7.15)	98.44 (4.80)	1.34 (7.02)	
Control	97.50 (7.38)	97.95 (7.12)	98.41 (6.83)	0.91 (5.82)	-0.051 [-1.063, 0.960]
P value	0.629	0.297	0.363	0.949	0.921
Emotional score					
BC30	96.43 (7.76)	96.73 (7.89)	97.92 (4.56)	1.49 (6.57)	
Control	96.82 (9.69)	97.27 (6.81)	97.73 (6.70)	0.91 (8.59)	0.056 [-1.063, 1.174]
P value	0.287	0.685	0.413	0.715	0.922
Wellbeing score					
BC30	82.43 (7.77)	82.86 (7.14)	83.43 (6.76)	1.00 (5.41)	
Control	83.13 (7.37)	83.64 (6.72)	84.00 (6.75)	0.87 (5.09)	-0.235 [-0.972, 0.503]
P value	0.496	0.511	0.481	0.784	0.533

.§ Significant intragroup changes (Friedman's or Cochran's test $p < 0.05$)

Supplementary Table S5. Comparison of changes in blood parameters for BC30 and control groups.

Parameter	Baseline	Week 4	Intragroup P
TP(g/L)			
BC30	71.9±3.89	72.0±3.71	0.719
Control	71.2±4.00	71.5±3.90	
P value	0.396	0.514	
ALB(g/L)			
BC30	45.2±1.55	45.4±1.89	0.494
Control	44.9±1.66	45.0±1.69	
P value	0.240	0.322	
ALT(U/L)			
BC30	22.8±11.26	21.9±9.99	0.086
Control	22.4±8.35	21.1±8.65	
P value	0.858	0.667	
AST(U/L)			
BC30	22.0±6.59	21.4±6.25	0.198
Control	21.5±6.67	21.1±6.08	
P value	0.708	0.821	
TBIL(umol/L)			
BC30	15.35±3.888	15.09±3.317	0.452
Control	15.33±3.742	15.03±3.979	
P value	0.977	0.941	
URE(mmol/L)			
BC30	4.889±1.1375	4.850±1.1274	0.726
Control	4.814±1.0630	4.761±1.0207	
P value	0.721	0.664	
CRE(umol/L)			
BC30	57.6±11.29	57.5±11.29	0.831
Control	57.3±11.34	57.0±9.44	
P value	0.890	0.808	
GLU(mmol/L)			
BC30	5.50±0.648	5.49±0.588	0.911
Control	5.39±0.451	5.35±0.405	
P value	0.331	0.142	
TC(mmol/L)			
BC30	5.150±0.7888	5.130±0.7850	0.702
Control	5.296±0.8242	5.269±0.7361	
P value	0.342	0.339	
TG(mmol/L)			

Parameter	Baseline	Week 4	Intragroup P
BC30	1.399±0.4634	1.390±0.4682	
Control	1.309±0.4218	1.259±0.3763	0.789
P value	0.283	0.107	
HDL(mmol/L)			
BC30	1.441±0.2319	1.457±0.2686	
Control	1.498±0.2261	1.505±0.2210	0.376
P value	0.189	0.309	
LDL(mmol/L)			
BC30	2.556±0.6625	2.529±0.5065	
Control	2.654±0.7369		0.607
P value	0.461	0.256	
UA(umol/L)			
BC30	330.7±59.17	328.6±60.67	
Control	322.6±58.40	320.5±71.36	0.61
P value	0.470	0.518	
WBC(×10⁹/L)			
BC30	5.38±1.152	5.29±1.043	
Control	5.47±1.473	5.39±1.205	0.116
P value	0.713	0.664	
RBC(×10¹²/L)			
BC30	4.61±0.346	4.65±0.320	
Control	4.67±0.399	4.70±0.396	0.032
P value	0.399	0.430	
HGB (g/L)			
BC30	135.2±12.13	136.6±10.24	
Control	136.4±11.98	137.8±11.59	0.047
P value	0.600	0.595	

Abbreviations: ALB, albumin; ALT, alanine aminotransferase; AST, aspartate aminotransferase; CRE, creatinine; CLU, glucose; HDL, high-density lipoprotein; HGB, hemoglobin; LDL, low-density lipoprotein; TBIL, total bilirubin; TC, total cholesterol; TG, thyroglobulin; TP, total protein; UA, uric acid; URE, urea; WBC, white blood cells.

Supplementary Form S1. Daily Health Diary Forms

Name:

Gender:

During Screening period

Observation indicators/test days	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
Quantity taken (sachets):														
1. Number of bowel movements:														
2. Defecation status: (Select only one item and mark √ in the corresponding box)	I (0 points): Normal bowel movements													
	II (1 point): Only feeling of falling and discomfort													
	III (2 points): Obvious feeling of falling and discomfort; Frequent but difficult to defecate with low volume, less abdominal pain or burning sensation in the anus													
	IV (3 points): Frequent abdominal pain or burning sensation in the anus, affecting bowel movements													
3. Fecal characteristics: (Select only one item and mark √ in the corresponding box)	I (0 points): Like sausage or snake, smooth and soft; Like a sausage, but with cracks on its surface; Soft lumps with obvious edges (easy to remove)													
	II (1 point): Sausage shaped, but with lumps; Loose lumps with rough edges resembling muddy feces													
	III (2 points): Separated hard masses, like fruit kernels (difficult to remove)													
4. Adverse reactions: nausea, bloating, diarrhea, abdominal pain, and abnormal feces														

Daily Health Diary Form

Name: _____

During Study period:

Observation indicators/test days		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Quantity taken (sachets):																
1. Number of bowel movements:																
2. Defecation status: (Select only one item and mark √ in the corresponding box)	I (0 points): Normal bowel movements															
	II (1 point): Only feeling of falling and discomfort															
	III (2 points): Obvious feeling of falling and discomfort; Frequent but difficult to defecate with low volume, less abdominal pain or burning sensation in the anus															
	IV (3 points): Frequent abdominal pain or burning sensation in the anus, affecting bowel movements															
3. Fecal characteristics: (Select only one item and mark √ in the corresponding box)	I (0 points): Like sausage or snake, smooth and soft; Like a sausage, but with cracks on its surface; Soft lumps with obvious edges (easy to remove)															
	II (1 point): Sausage shaped, but with lumps; Loose lumps with rough edges resembling muddy feces															
	III (2 points): Separated hard masses, like fruit kernels (difficult to remove)															
4. Adverse reactions: nausea, bloating, diarrhea, abdominal pain, and abnormal feces																

Observation indicators/test days		15	16	17	18	19	20	21	22	23	24	25	26	27	28
Quantity taken (sachets):															
1. Number of bowel movements:															
2. Defecation status: (Select only one item and mark ✓ in the corresponding box)	I (0 points): Normal bowel movements														
	II (1 point): Only feeling of falling and discomfort														
	III (2 points): Obvious feeling of falling and discomfort; Frequent but difficult to defecate with low volume, less abdominal pain or burning sensation in the anus														
	IV 3 points): Frequent abdominal pain or burning sensation in the anus, affecting bowel movements														
3. Fecal characteristics: (Select only one item and mark ✓ in the corresponding box)	I (0 points): Like sausage or snake, smooth and soft; Like a sausage, but with cracks on its surface; Soft lumps with obvious edges (easy to remove)														
	II (1 point): Sausage shaped, but with lumps; Loose lumps with rough edges resembling muddy feces														
	III (2 points): Separated hard masses, like fruit kernels (difficult to remove)														
4. Adverse reactions: nausea, bloating, diarrhea, abdominal pain, and abnormal feces															

Supplementary Form S2. Gastrointestinal Symptom Rating Scale (GSRS) Form

Please read first:

This survey questionnaire contains information about your feelings about the **past week**. Please mark the description that best suits you and your situation with "x" in the following box.

1. Have you experienced pain or discomfort in your upper abdomen or stomach in the past week?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

2. Have you experienced heartburn in the past week (i.e., tingling or burning sensation in your chest)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

3. In the past week, have you experienced gastric acid reflux (i.e., ruminating a small amount of stomach acid, or acidic or bitter liquid flowing from the stomach to the throat)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

4. Have you experienced hunger pain in your stomach in the past week (i.e. feeling empty between meals and needing medication to eat)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

5. Have you experienced nausea (i.e. vomiting) in the past week?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

6. Have you ever had a continuous rumbling sound (i.e. vibration or noise) in your stomach in the past week?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

7. Have you been troubled by stomach bloating in the past week?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

8. Have you been troubled by hiccups in the past week (i.e. air or gas from the stomach to the mouth, usually associated with relieving bloating sensation)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

9. Have you been troubled by gastrointestinal gas in the past week (i.e., the need to release air or gas from the intestines, usually related to relieving the sensation of bloating)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

10. Have you been troubled by constipation in the past week (i.e. decreased ability to empty your intestines)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

11. Have you been troubled by diarrhea in the past week (i.e. emptying the large intestine too frequently)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

12. Have you been troubled by soft stools in the past week (if the normal state is alternating between soft and hard, please indicate the degree of softening in this question)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

13. Have you been troubled by stool hardness in the past week (if the normal state is alternating between soft and hard, please answer the degree of hardness in this question)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

14. Have you had any experience of internal urgency (defecation) in the past week (urgent need to go to the bathroom, usually related to feeling unable to fully control)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

15. Have you ever had a feeling of incomplete bowel movements during the past week when using the restroom (meaning you still feel the need to defecate, even though you have tried your best)?

No discomfort (0)

Mild discomfort (1)

Moderate discomfort (3)

Severe discomfort (5)

Reference:

Kulich KR, Madisch A, Pacini F, Piqué JM, Regular J, Van Rensburg CJ, Újszászy L, Carlsson J, Halling K, Wiklund IK Reliability and validity of the Gastrointestinal Symptom Rating Scale (GSRS) and Quality of Life in Reflux and Dyspepsia (QOLRAD) questionnaire in Dyspepsia: A six country study. *Health and Quality of Life Outputs* 2008, 6:12.
<https://doi.org/doi: 10.1186/1477-7525-6-12>.

Supplementary Form S3. SODA questionnaire.

Satisfaction of Dyspepsia Assessment (SODA)

1、 Indigestion - upper abdominal pain (above ribs) (check one)

1. ___ None
2. ___ Once a week
3. ___ 1-2 times a week
4. ___ 3-4 times a week
5. ___ Once a day or more

2、 Heartburn - burning sensation in the upper abdomen above the ribs (check one)

1. ___ None
2. ___ Once a week
3. ___ 1-2 times a week
4. ___ 3-4 times a week
5. ___ Once a day or more

3、 Reflux - acid reflux or sour taste in the mouth (check one)

1. ___ None
2. ___ Once a week
3. ___ 1-2 times a week
4. ___ 3-4 times a week
5. ___ Once a day or more

4、 Nausea - feeling nauseous but not actually vomiting

1. ___ None
2. ___ Once a week
3. ___ 1-2 times a week
4. ___ 3-4 times a week
5. ___ Once a day or more

Supplementary Form S4. Quality of Life (SF-36 v2) Form

1. Overall, your assessment of your health condition is:

Excellent	very good	good	commonly	Not good	
<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	GH01

2. How do you evaluate your current health status compared to the past year?

Compared to the past year much better	Slightly better than Last year	Compared to the past year similarity	Slightly inferior to Last year	Compared to the past year It's much worse	
<input type="checkbox"/> ₁	<input type="checkbox"/> ₂	<input type="checkbox"/> ₃	<input type="checkbox"/> ₄	<input type="checkbox"/> ₅	HT

3. The following questions are about the activities you may do during the day. Are your current health conditions limiting your participation in these activities? If so, what is the degree of restriction?

	Yes, Significant impact 4-7 days/ week)	Yes, There are some impacts (1-3 days /week)	No impact at all (0 days/ week)	code
a) Intense activities such as running, lifting weights, and participating in intense sports events	1	2	3	PF01
b) Moderate activities , such as moving tables, pushing vacuum cleaners, playing bowling or golf	1	2	3	PF02
c) Lifting or carrying groceries	1	2	3	PF03
d) Climb a few flights of stairs	1	2	3	PF04
e) Climbing a flight of stairs	1	2	3	PF05
f) Bending, kneeling, or bending down	1	2	3	PF06
g) Walk more than one kilometer	1	2	3	PF07
h) Walk a few hundred yards (one yard equals 0.914 meters)	1	2	3	PF08
i) Walk a hundred yards	1	2	3	PF09
j) Take a shower or change clothes yourself	1	2	3	PF10

4. How much time in the past 4 weeks have you encountered any of the following issues in your work or other daily activities due to your physical health?

	always (Every day)	Most of the time (5-7 times/week)	Sometimes (3-5 times/week)	occasionally (1-2 times/week)	nothing (0 times/)	
a) Reduce work and other activity time	1	2	3	4	5	RP01
b) Complete fewer things than expected	1	2	3	4	5	RP02
c) Can only do a certain job or other activity	1	2	3	4	5	RP03
d) Difficulties encountered while performing work or other activities (e.g. additional effort expended)	1	2	3	4	5	RP04

5. How much time in the past 4 weeks have you encountered the following issues in your work or other daily activities due to emotional issues (such as feeling frustrated or anxious)?

	always (Every day)	Most of the time (5-7 times/week)	Sometimes (3-5 times/week)	occasionally (1-2 times/week)	nothing (0 times/)	
a) Reduce the time you spend on work or other activities	1	2	3	4	5	RE01
b) Complete fewer things than expected	1	2	3	4	5	RE02
c) Not completing work or other activities diligently as usual	1	2	3	4	5	RE03

6. To what extent have your physical health or emotional issues interfered with your normal social activities with family, friends, neighbors, or groups in the past 4 weeks?

No impact at all (0 days/week)	Minor impact (1-2 days/week)	Moderate impact (3-5 days/week)	Severe impact (5-7 days/week)	Extreme impact (Every day)	
1	2	3	4	5	SF01

7. How severe have you experienced physical pain in the past 4 weeks?

No impact (0 days/week)	slight (1 day/week)	mild (1-2 days/week)	moderate (3-4 days/week)	severe (5-7 days/week)	extreme (Every day)	
1	2	3	4	5	6	BP01

8. To what extent has your pain situation affected your normal work (including work outside and household chores) in the past 4 weeks?

No impact (0 days/week)	A little influence (1-2 days/week)	Moderate impact (3-5 days/week)	Moderate impact (5-7 days/week)	Extreme impact (Every day)	
1	2	3	4	5	BP02

9. The following questions are related to your feelings and situation over the past 4 weeks. For each question, please provide an answer that is closest to what you feel. How much time in the past 4 weeks

	always (Every day)	Most of the time (5-7 times/week)	Sometimes (3-5 times/week)	occasionally (1-2 times/week)	nothing (0 times/)	
a) Feeling energized in life?	1	2	3	4	5	VT01
b) Feeling very nervous?	1	2	3	4	5	MH01
c) Feeling very frustrated and having nothing to do to make you happy?	1	2	3	4	5	MH02
d) Feeling calm and calm?	1	2	3	4	5	MH03
e) Feeling energized?	1	2	3	4	5	VT02
f) Feeling frustrated and depressed?	1	2	3	4	5	MH04
g) Feeling exhausted?	1	2	3	4	5	VT03

h) Feeling happy?	1	2	3	4	5	MH05
i) Feeling tired?	1	2	3	4	5	VT04

10. How much time have your physical health or emotional issues interfered with your social activities (such as visiting friends, relatives, etc.) in the past 4 weeks?

always (Every day)	Most of the time (5-7 times/week)	Sometimes (3-5 times/week)	occasionally (1-2 times/week)	nothing (0 times/)	
1	2	3	4	5	SF02

11. How true or false are each of the following statements to you?

	Exactly correct	More accurate	I don't know	Less accurate	Completely incorrect	
a) I seem to get sick more easily than others	1	2	3	4	5	GH02
b) I am as healthy as everyone else I know	1	2	3	4	5	GH03
c) I predict that my health will deteriorate	1	2	3	4	5	GH04
d) My health is excellent	1	2	3	4	5	GH05