**Supplementary material:**

**Table A.1.** Sociodemographic and clinical characteristics of the per-protocol subsample compared to study drop-outs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Total sample  (*n* = 63) | Per-protocol sample  (*n* = 32) | Drop-outs  (*n* = 31) | Test statistic |
| *Sociodemographic characteristics* |  |  |  |  |
| Age, *M* (*SD*) | 47.05 (11.45) | 47.56 (10.60) | 46.52 (12.42) | *t*(61) = -0.36, *p* = .720 |
| Gender, *n* (%) |  |  |  | χ2(1) = 0.49, *p* = .482 |
| Female | 51 (81.0) | 27 (42.9) | 24 (38.1) |  |
| Male | 12 (19.0) | 5 (7.9) | 7 (11.1) |  |
| Education, *n* (%) |  |  |  | χ2(2) = 0.29, *p* = .874d |
| Secondary school degree or lower | 32 (50.8) | 16 (25.4) | 16 (25.4) |  |
| Higher education entrance qualification | 7 (11.1) | 3 (4.8) | 4 (6.3) |  |
| University degree | 24 (38.1) | 13 (20.6) | 11 (17.5) |  |
| Employment status, *n* (%) |  |  |  | χ2(3) = 1.24, *p* = .762d |
| Unemployed | 6 (9.5) | 3 (4.8) | 3 (4.8) |  |
| Employed, currently working | 20 (31.7) | 12 (19.0) | 8 (12.7) |  |
| Employed, on sick leave | 34 (54.0) | 16 (25.4) | 18 (28.6) |  |
| Other (e.g., parental leave, retired) | 3 (4.8) | 1 (1.6) | 2 (3.2) |  |
| *Clinical characteristics* |  |  |  |  |
| Somatic symptom distress (PHQ-15), *M* (*SD*) | 13.29 (5.00) | 11.88 (4.69) | 14.74 (4.96) | *t*(61) = 2.36, *p* = .022 |
| Psychobehavioral features (SSD-12), *M* (*SD*) | 23.22 (9.93) | 20.97 (10.07) | 25.55 (9.38) | *t*(61) = 1.87, *p* = .067 |
| Fatigue (FSS), *M* (*SD*) | 5.93 (1.30) | 5.78 (1.38) | 6.08 (1.20) | *t*(61) = 0.92, *p* = .360 |
| Depression (PHQ-9), *M* (*SD*) | 11.29 (5.18) | 9.31 (4.65) | 13.32 (4.96) | *t*(61) = 3.31, *p* = .002 |
| Anxiety (GAD-7), *M* (*SD*) | 6.14 (5.17) | 4.84 (4.77) | 7.48 (5.30) | *t*(61) = 2.08, *p* = .042 |
| Self-efficacy (HEALTH-49)a, *M* (*SD*) | 1.83 (0.91) | 1.98 (0.85) | 1.67 (0.96) | *t*(60) = -1.31, *p* = .194 |
| Illness cognitions (ICQ)b, *M* (*SD*) |  |  |  |  |
| Helplessness | 15.29 (4.05) | 14.13 (3.26) | 16.50 (4.46) | *t*(53.05) = 2.36, *p* = .022e |
| Acceptance | 13.05 (4.24) | 13.71 (4.73) | 12.37 (3.61) | *t*(56.01) = -1.25, *p* = .217e |
| Perceived benefits | 14.16 (4.10) | 14.97 (3.99) | 13.33 (4.07) | *t*(59) = -1.58, *p* = .119 |
| Presence of a current mental disorder (SCID-5)b, yes, *n* (%) | 33 (54.1) | 13 (21.3) | 20 (32.8) | χ2(1) = 2.75, *p* = .097 |
| Time since first SARS-CoV-2 infectionc, weeks, *M* (*SD*) | 62.45 (27.67) | 64.98 (28.77) | 60.09 (26.86) | *t*(58) = -0.68, *p* = .499 |

*Note*. a*n* = 62. b*n* = 61. c*n* = 60. dχ2 tests were performed usingMonte Carlo simulation of the p-values with 1000 iterations to deal with expected cell counts <5. eWelch’s t test was performed to deal with heterogeneity of variances. Participants were included in the per-protocol analysis if they completed pre-post assessments and attended ≥6 sessions. PHQ-15, Patient Health Questionnaire – somatic symptom scale; SSD-12, Somatic Symptom Disorder – B criteria scale; FSS, Fatigue Severity Scale; PHQ-9, Patient Health Questionnaire – depression scale; GAD-7, General Anxiety Disorder Scale; HEALTH-49, Hamburg Modules for the Assessment of Psychosocial Health; ICQ, Illness Cognition Questionnaire; SCID-5, Structured Clinical Interview for DSM-5 Disorders.

**Table A.2.** Frequencies of psychiatric diagnosis based on SCID-5 interviews.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Disorder category** | **Disorder** | **DSM-5 code** | **ICD-10 code** | **Frequency, *n*** |
| *Current mental disorders* | | | | |
| Bipolar and related disorders | Bipolar II disorder | 296.89 | F31.81 | 1 |
| Depressive disorders | Major depressive disorder, single episode, mild | 296.21 | F32.0 | 2 |
| Major depressive disorder, single episode, moderate | 296.22 | F32.1 | 3 |
| Major depressive disorder, single episode, severe | 296.23 | F32.2 | 1 |
| Major depressive disorder, recurrent episode, mild | 296.31 | F33.0 | 4 |
| Major depressive disorder, recurrent episode, moderate | 296.32 | F33.1 | 3 |
| Major depressive disorder, recurrent episode, in partial remission | 296.35 | F33.41 | 1 |
| Persistent depressive disorder | 300.4 | F34.1 | 2 |
|  | **Total** |  | **16** |
| Anxiety disorders | Agoraphobia | 300.22 | F40.00 | 3 |
| Social anxiety disorder | 300.23 | F40.10 | 2 |
| Specific phobia, situational | 300.29 | F40.248 | 1 |
| Panic disorder | 300.01 | F41.0 | 1 |
| Generalized anxiety disorder | 300.02 | F41.1 | 4 |
|  | **Total** |  | **11** |
| Obsessive-compulsive and related disorders | Excoriation (Skin-picking) disorder | 698.4 | F63.9 | 1 |
| Trauma- and stress-related disorders | Posttraumatic stress disorder | 309.81 | F43.10 | 1 |
| Adjustment disorder, with depressed mood | 309.0 | F43.21 | 1 |
| Adjustment disorder, with disturbance of conduct | 309.3 | F43.24 | 1 |
|  | **Total** |  | 3 |
| Somatic symptom and related disorders | Somatic symptom disorder | 300.82 | F45.1 | 13 |
| Other specified somatic symptom and related disorder | 300.89 | F45.8 | 1 |
| Unspecified somatic symptom and related disorder | 300.82 | F45.9 | 1 |
|  | **Total** |  | **15** |
| Attention-deficit/hyperactivity disorders | Attention-deficit/hyperactivity disorder, predominantly inattentive presentation | 314.00 | F90.0 | 1 |
| *Anamnestic (past) mental disorders* | | | | |
| Substance-related disorders | Cannabis use disorder, in sustained remission | - | - | 2 |
| Depressive disorders | Major depressive disorder, single episode, in full remission | 296.26 | F32.5 | 7 |
| Major depressive disorder, recurrent episode, in full remission | 296.36 | F33.42 | 2 |
|  | **Total** |  | **9** |
| Anxiety disorders | Agoraphobia (past) | - | - | 1 |
| Panic disorder (past) | - | - | 2 |
|  | **Total** |  | **3** |
| Trauma- and stress-related disorders | Posttraumatic stress disorder (past) | - | - | 7 |

*Note*. SCID-5 = Structured Clinical Interview for DSM-5 Disorders.

**Table A.3.** Session evaluation by therapists.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Items (GTS-T) | Session | | | | | | | | | | | | | | | |
| No. 1  Introduction and goal setting | | No. 2  Psycho-  education | | No. 3  Stress education and relaxation | | No. 4  Attention  modification | | No. 5  Cognitive  restructuring | | No. 6  Balancing  physical  activity | | No. 7  Stress  management | | No. 8  Summary and transfer | |
| *na* = 10, *k*b = 5 | | *n* = 10, *k* = 5 | | *n* = 10, *k* = 5 | | *n* = 10, *k* = 5 | | *n* = 9, *k* = 5 | | *n* = 9, *k* = 5 | | *n* = 9, *k* = 5 | | *n* = 7, *k* = 4 | |
| *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) |
| 1. Patients were engaged during today’s session. | 2.40 | (0.70) | 2.20 | (0.92) | 2.20 | (0.79) | 3.20 | (0.79) | 3.11 | (0.78) | 3.56 | (0.73) | 3.00 | (0.71) | 3.57 | (0.79) |
| 2. Patients actively participated in today's session. | 2.70 | (0.48) | 2.30 | (0.67) | 2.40 | (0.70) | 3.00 | (0.94) | 3.22 | (0.83) | 3.33 | (0.87) | 3.00 | (0.71) | 3.57 | (0.79) |
| 3. Patients could well comprehend the contents of this session. | 2.00 | (1.05) | 2.20 | (0.79) | 2.10 | (0.99) | 2.80 | (0.79) | 2.89 | (0.78) | 3.33 | (0.87) | 3.00 | (0.87) | 3.43 | (0.79) |
| 4. Today's session provided patients with suggestions for coping with their complaints. | 1.10 | (1.10) | 1.90 | (1.10) | 1.80 | (0.92) | 3.10 | (0.74) | 3.11 | (1.05) | 3.11 | (1.05) | 3.00 | (1.00) | 3.57 | (0.53) |
| 5. Patients have found the group helpful today. | 1.60 | (1.07) | 1.80 | (1.03) | 1.70 | (0.67) | 3.10 | (0.57) | 3.00 | (1.00) | 3.22 | (0.83) | 2.78 | (0.83) | 3.43 | (0.53) |
| 6. After today's session, patients consider this approach promising for coping with their complaints. | 1.60 | (1.07) | 1.50 | (0.85) | 1.40 | (0.70) | 2.50 | (1.08) | 2.67 | (1.22) | 3.00 | (1.12) | 2.56 | (0.73) | 3.29 | (0.49) |
| 7. Today the atmosphere in the group was good. | 2.40 | (0.84) | 2.50 | (0.53) | 2.20 | (0.63) | 3.50 | (0.71) | 3.67 | (0.50) | 3.67 | (0.50) | 3.33 | (0.50) | 3.71 | (0.49) |
| 8. I did a good job of responding to patient concerns today. | 2.20 | (1.03) | 2.40 | (0.84) | 2.00 | (0.94) | 3.00 | (1.41) | 2.89 | (0.93) | 3.22 | (1.09) | 2.67 | (1.50) | 3.71 | (0.49) |
| 9. Today, the session passed by the current needs of the patients.c | 0.20 | (0.42) | 0.30 | (0.67) | 0.20 | (0.42) | 0.70 | (0.67) | 0.56 | (0.88) | 0.33 | (0.50) | 1.00 | (1.00) | 0.29 | (0.49) |
| 10. Today, I was able to promote the contents of the therapy program. | 2.10 | (0.88) | 1.80 | (1.23) | 1.70 | (1.06) | 2.90 | (1.45) | 3.11 | (0.93) | 2.78 | (1.20) | 2.78 | (1.48) | 3.29 | (1.11) |
| 11. Today I was able to use the individual examples of the patients well to implement the session theme. | 2.40 | (0.70) | 2.20 | (0.79) | 1.80 | (0.92) | 3.10 | (1.29) | 2.89 | (1.05) | 3.11 | (1.05) | 3.00 | (1.12) | 3.86 | (0.38) |
| 12. Overall, I am satisfied with today's session. | 1.90 | (0.74) | 2.00 | (0.82) | 1.80 | (0.79) | 3.00 | (0.94) | 3.22 | (0.67) | 3.22 | (1.09) | 3.00 | (1.12) | 3.29 | (0.95) |
| **Total (mean of all 12 items)** | **2.18** | **(0.61)** | **2.21** | **(0.53)** | **2.08** | **(0.56)** | **3.04** | **(0.70)** | **3.10** | **(0.70)** | **3.27** | **(0.78)** | **2.93** | **(0.76)** | **3.54** | **(0.48)** |

*Note*. GTS-T, group therapy session evaluation by therapists. Items were rated on a 5-point scale from (0) „disagree“ to (4) „agree“. aNumber of sessions performed, bnumber of therapists, cItem is included inverted in the total mean calculation.

**Table A.4.** Self-reported adverse events.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| UE-G items | *M*(*SD*) | % item responses | | | | |
| (0) did not  occur | (1) did occur, but was hardly burdensome | (2) did occur and was clearly burdensome | (3) did occur  and was very burdensome | (4) did occur and was  extremely burdensome |
| **1. When thinking about the size of the group and/or the room … (*n* = 41)** | | | | | | |
| … I felt cramped. | 0.02 (0.16) | 97.6 | 2.4 | - | - | - |
| … my absence would not have been noticed. | 0.17 (0.38) | 82.9 | 17.1 | - | - | - |
| … I felt under observation and/or at the mercy of others. | 0.10 (0.30) | 90.2 | 9.8 | - | - | - |
| … I felt lost. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I felt anxious or had a feeling of constriction. | 0.05 (0.22) | 95.1 | 4.9 | - | - | - |
| … I felt inhibited and shy to speak | 0.10 (0.30) | 90.2 | 9.8 | - | - | - |
| … I felt in a goldfish bowl. | 0.07 (0.26) | 92.7 | 7.3 | - | - | - |
| … I felt uncomfortable close to the others. | 0.07 (0.47) | 97.6 | - | - | 2.4 | - |
| **Global rating “Space situation”** | **At least one side effect (ratings 1-4)** | | 39.0 | **At least one severe side effect (ratings 3-4)** | | 2.4 |
| **2. When I think about the content of the group discussion … (*n* = 41)** | | | | | | |
| … I learned that there is nothing I can do about my problems. | 0.63 (1.02) | 63.4 | 19.5 | 9.8 | 4.9 | 2.4 |
| … I do not know what to think. | 0.32 (0.88) | 85.4 | 4.9 | 4.9 | 2.4 | 2.4 |
| … I could not see that my problem had been addressed. | 0.24 (0.83) | 90.2 | 2.4 | 2.4 | 2.4 | 2.4 |
| … I realized how complicated everything is. | 1.10 (1.24) | 43.9 | 24.4 | 14.6 | 12.2 | 4.9 |
| … I was afraid not to know how to proceed in the future. | 0.78 (1.11) | 56.1 | 22.0 | 14.6 | 2.4 | 4.9 |
| … I saw even more problems. | 0.63 (0.92) | 61.0 | 19.5 | 14.6 | 4.9 | - |
| … I felt worse than before. | 0.46 (1.03) | 78.0 | 9.8 | 2.4 | 7.3 | 2.4 |
| … I am confused. | 0.29 (0.84) | 85.4 | 7.3 | 2.4 | 2.4 | 2.4 |
| ... I felt that I am too stupid to understand. | 0.39 (1.00) | 82.9 | 4.9 | 7.3 | - | 4.9 |
| **Global rating “Content”** | **At least one side effect (ratings 1-4)** | | 75.6 | **At least one severe side effect (ratings 3-4)** | | 22.0 |

(To be continued)

**Table A.4.** (Continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| UE-G items | *M*(*SD*) | % item responses | | | | |
| (0) did not  occur | (1) did occur, but was hardly burdensome | (2) did occur and was clearly burdensome | (3) did occur  and was very burdensome | (4) did occur and was  extremely burdensome |
| **3. When I think about the other participants of the group … (*n* = 41)** | | | | | | |
| … I had to tolerate criticism or insults. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I felt of no significance and/or worthless. | 0.02 (0.16) | 97.6 | 2.4 | - | - | - |
| … I felt that I was not part of to the group. | 0.07 (0.35) | 95.1 | 2.4 | 2.4 | - | - |
| … I felt obliged to speak. | 0.22 (0.42) | 78.0 | 22.0 | - | - | - |
| … I felt under pressure. | 0.12 (0.51) | 92.7 | 4.9 | - | 2.4 | - |
| … I had no chance to speak. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I felt marginalized. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I felt that my problems are more severe than I thought before. | 0.71 (1.17) | 63.4 | 19.5 | 4.9 | 7.3 | 4.9 |
| **Global rating “Other participants”** | **At least one side effect (ratings 1-4)** | | 53.7 | **At least one severe side effect (ratings 3-4)** | | 12.2 |
| **4. When I think about the therapist … (*n* = 40)** | | | | | | |
| … I felt a tension between both of us. | 0.05 (0.22) | 95.0 | 5.0 | - | - | - |
| … I felt criticized and belittled. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I felt dominated and overrun. | 0.05 (0.22) | 95.0 | 5.0 | - | - | - |
| … I felt ignored. | 0.05 (0.32) | 97.5 | 2.5 | - | - | - |
| … I felt that he/she was not in control of the group.a | 0.10 (0.38) | 92.3 | 5.1 | 2.6 | - | - |
| … I felt that the therapist is incompetent.a | 0.03 (0.16) | 97.4 | 2.6 | - | - | - |
| … I think that the therapist is sicker than the patients.a | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I had the feeling that he/she made fun of me.a | 0.00 (0.00) | 100.0 | - | - | - | - |
| **Global rating “Therapists”** | **At least one side effect (ratings 1-4)** | | 15.4 | **At least one severe side effect (ratings 3-4)** | | 0.0 |

(To be continued)

**Table A.4.** (Continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| UE-G items | *M*(*SD*) | % item responses | | | | |
| (0) did not  occur | (1) did occur, but was hardly burdensome | (2) did occur and was clearly burdensome | (3) did occur  and was very burdensome | (4) did occur and was  extremely burdensome |
| **5. After participating in the group … (*n* = 40)** | | | | | | |
| … I am determined not to participate in further group sessions. | 0.45 (1.04) | 77.5 | 12.5 | 2.5 | 2.5 | 5.0 |
| … I am determined to be very cautious and taken back in future group session. | 0.08 (0.27) | 92.5 | 7.5 | - | - | - |
| … I am determined to express myself more clearly. | 0.33 (0.83) | 82.5 | 10.0 | - | 7.5 | - |
| … I feel worse than before.a | 0.23 (0.84) | 92.3 | - | 2.6 | 2.6 | 2.6 |
| … I feel more apprehension and anxiety than before. | 0.30 (0.85) | 85.0 | 7.5 | 2.5 | 2.5 | 2.5 |
| … I do less dare to speak up than before. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I do less dare to approach other persons than before. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I have no longer trust in therapists. | 0.00 (0.00) | 100.0 | - | - | - | - |
| … I think that I will not master my daily life anymore. | 0.25 (0.59) | 82.5 | 10.0 | 7.5 | - | - |
| **Global rating “Lessons learned”** | **At least one side effect (ratings 1-4)** | | 37.5 | **At least one severe side effect (ratings 3-4)** | | 12.8 |
| **6. When I think about the group therapy in general… (*n* = 40)** | | | | | | |
| … I am afraid that information from within the group will be spread outside of the group. | 0.10 (0.38) | 92.5 | 5.0 | 2.5 | - | - |
| … I have learned that group therapy is not my thing. | 0.20 (0.72) | 90.0 | 5.0 | 2.5 | - | 2.5 |
| … I have seen that I will get more problems in my life if I try to follow recommendations from the group. | 0.23 (0.53) | 82.5 | 12.5 | 5.0 | - | - |
| … I am afraid that the group therapy will have negative consequences for my life. | 0.08 (0.35) | 95.0 | 2.5 | 2.5 | - | - |
| **Global rating “General experience”** | **At least one side effect (ratings 1-4)** | | 27.5 | **At least one severe side effect (ratings 3-4)** | | 2.5 |

*Note*. a*n* = 39. UE-G, unwanted events in group therapy.

**Table A.5.** Pre-post comparisons of self-report measures for the per-protocol sample.

|  |  |  |
| --- | --- | --- |
| Outcome | Per-protocol sample (*n* = 32) | |
| Mean difference [95% *CI*] | Within-group comparison |
| Somatic symptom distress (PHQ-15) | -1.22 [-2.77, 0.33] | *t*(31) = -1.60, *p* = .119, *dav* = 0.28 |
| Psychobehavioral features (SSD-12) | -0.97 [-4.13, 2.19] | *t*(31) = -0.63, *p* = .537, *dav* = 0.11 |
| Fatigue (FSS) | -0.73 [-1.28, -0.18] | *t*(31) = -2.70, *p* = .011, *dav* = 0.48 |
| Depression (PHQ-9) | -0.91 [-2.57, 0.76] | *t*(31) = -1.11, *p* = .275, *dav* = 0.20 |
| Anxiety (GAD-7) | -0.78 [-2.09, 0.52] | *t*(31) = -1.22, *p* = .231, *dav* = 0.22 |
| Self-efficacy (HEALTH-49) | 0.41 [0.06, 0.76] | *t*(31) = 2.41, *p* = .022, *dav* = 0.43 |
| Illness cognitions (ICQ) |  |  |
| Helplessness | -1.87 [-2.95, -0.79]a | *t*(30) = -3.53, *p* = .001, *dav* = 0.64 |
| Acceptance | 2.97 [1.44, 4.50]a | *t*(30) = 3.97, *p* < .001, *dav* = 0.72 |
| Perceived benefits | 2.52 [1.27, 3.76]a | *t*(30) = 4.13, *p* < .001, *dav* = 0.75 |

*Note*. a*n* = 31. PHQ-15, Patient Health Questionnaire – somatic symptom scale; SSD-12, Somatic Symptom Disorder – B criteria scale; FSS, Fatigue Severity Scale; PHQ-9, Patient Health Questionnaire – depression scale; GAD-7, General Anxiety Disorder Scale; HEALTH-49, Hamburg Modules for the Assessment of Psychosocial Health; ICQ, Illness Cognition Questionnaire.