Electronic Supplementary Materials

**Mindfulness-Based Cognitive Therapy for Fatigue in Patients with Inflammatory Bowel Disease: Results of a Randomized Controlled Trial**

**Authors:**

Quirine M. Bredero, MSc1 (<https://orcid.org/0000-0002-0232-4522>)

Joke Fleer, PhD1 ([j.fleer@umcg.nl](mailto:j.fleer@umcg.nl))

Ans Smink, MSc1 ([j.g.smink@umcg.nl](mailto:j.g.smink@umcg.nl))

Greetje Kuiken, MSc2 ([m.a.kuiken@umcg.nl](mailto:m.a.kuiken@umcg.nl))

Joke Potjewijd, MSc5 ([j.potjewijd@gmail.com](mailto:j.potjewijd@gmail.com))

Marleen Laroy, MSc6 ([info@zeilenopdewind.nl](mailto:info@zeilenopdewind.nl))

Marijn C. Visschedijk, MD PhD2 ([m.c.visschedijk@umcg.nl](mailto:m.c.visschedijk@umcg.nl))

Maurice Russel, MD PhD3 ([m.russel@mst.nl](mailto:m.russel@mst.nl))

Mark van der Lugt, MD3 ([m.vanderlugt@mst.nl](mailto:m.vanderlugt@mst.nl))

Maarten A.C. Meijssen, MD PhD4 ([m.a.c.meijssen@isala.nl](mailto:m.a.c.meijssen@isala.nl))

Egbert Jan van der Wouden, MD PhD4 ([e.j.van.der.wouden@isala.nl](mailto:e.j.van.der.wouden@isala.nl))

Gerard Dijkstra, MD PhD2# ([gerard.dijkstra@umcg.nl](mailto:gerard.dijkstra@umcg.nl))

Maya J. Schroevers, PhD1# ([m.j.schroevers@umcg.nl](mailto:m.j.schroevers@umcg.nl))

#Shared last authorship

1Department of Health Psychology, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands

2Department of Gastroenterology and Hepatology, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands

3Department of Gastroenterology and Hepatology, Medisch Spectrum Twente, Enschede, The Netherlands

4Department of Gastroenterology, Isala Clinics, Zwolle, The Netherlands

5Isala Clinics, Zwolle, The Netherlands

6Mindfulness Training Twente – Zeilen op de wind, Boekelo, The Netherlands

**Supplementary Table 1.** Mean scores at baseline and post-measurement and group differences for primary and secondary outcome measures – complete cases (*n* = 90)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | Time effect | | | Group effect | | | |
| Measure | Group | Baseline  Mean (SD) | Post  Mean (SD) | *t* | *p* | Cohen’s *d* (95% CI) | Mean differencea (95% CI) | *t*a | *p*a | Cohen’s *d*a (95% CI) |
| Fatigue (CIS-20) |  |  |  |  |  |  |  |  |  |  |
| Subjective | MBCT | 41.2 (7.6) | 35.9 (10.2) | 3.84 | <0.001\* | 0.59 (0.13 – 1.05) | 3.69 (0.82 – 6.57) | 2.55 | 0.01\* | 0.46 (0.03 – 0.88) |
|  | WAIT | 42.2 (8.1) | 40.4 (9.1) | 2.54 | 0.01\* | 0.21 (-0.18 – 0.59) |  |  |  |  |
| Concentration | MBCT | 20.5 (7.3) | 19.8 (6.6) | 0.85 | 0.40 | 0.10 (-0.35 – 0.55) | 0.22 (-1.86 – 2.30) | 0.21 | 0.84 | 0.03 (-0.39 – 0.45) |
|  | WAIT | 18.8 (7.2) | 18.9 (7.0) | -0.19 | 0.85 | -0.01 (-0.40 – 0.37) |  |  |  |  |
| Motivation | MBCT | 17.2 (4.2) | 15.8 (5.0) | 1.44 | 0.16 | 0.30 (-0.15 – 0.76) | 0.44 (-1.43 – 2.32) | 0.47 | 0.64 | 0.09 (-0.33 – 0.51) |
|  | WAIT | 16.0 (4.6) | 15.7 (4.6) | 0.51 | 0.61 | 0.07 (-0.32 – 0.45) |  |  |  |  |
| Activation | MBCT | 14.0 (4.4) | 12.3 (5.1) | 2.96 | 0.01\* | 0.36 (-0.10 – 0.81) | 1.22 (0.19 – 2.63) | 1.71 | 0.09 | 0.27 (-0.15 – 0.69) |
|  | WAIT | 13.7 (4.5) | 13.3 (4.5) | 0.95 | 0.35 | 0.09 (-0.30 – 0.47) |  |  |  |  |
| Total | MBCT | 92.8 (16.8) | 83.7 (21.6) | 3.07 | <0.01\* | 0.47 (0.01 – 0.93) | 6.40 (0.07 – 12.73) | 2.01 | <0.05\* | 0.39 (-0.03 – 0.81) |
|  | WAIT | 90.6 (16.1) | 88.3 (18.9) | 1.41 | 0.17 | 0.13 (-0.25 – 0.52) |  |  |  |  |
| Fatigue interference | MBCT | 29.3 (12.2) | 25.1 (12.0) | 2.24 | 0.03\* | 0.35 (-0.11 – 0.80) | 1.24 (-3.01 – 5.49) | 0.58 | 0.56 | 0.10 (-0.32 – 0.52) |
| (FSI) | WAIT | 27.2 (13.7) | 25.1 (13.4) | 1.34 | 0.19 | 0.16 (-0.23 – 0.54) |  |  |  |  |
| Anxiety (GAD) | MBCT | 7.4 (4.9) | 6.1 (3.8) | 1.99 | 0.05 | 0.30 (-0.16 – 0.75) | 0.79 (-0.56 – 2.13) | 1.16 | 0.25 | 0.17 (-0.25 – 0.59) |
|  | WAIT | 6.2 (4.4) | 6.2 (4.4) | -0.08 | 0.94 | 0.00 (-0.38 – 0.38) |  |  |  |  |
| Depression (BDI-II) | MBCT | 16.5 (9.2) | 14.1 (9.4) | 1.86 | 0.07 | 0.26 (-0.19 – 0.71) | 2.47 (-0.29 – 5.22) | 1.78 | 0.08 | 0.27 (-0.15 – 0.69) |
|  | WAIT | 15.7 (9.3) | 15.9 (10.3) | -0.30 | 0.77 | -0.02 (-0.41 – 0.36) |  |  |  |  |
| Quality of Life | MBCT | 173.1 (18.0) | 174.7 (21.7) | -0.20 | 0.85 | -0.08 (-0.53 – 0.37) | -0.35 (-6.94 – 6.25) | -0.10 | 0.92 | -0.01 (-0.43 – 0.40) |
| (IBD-Q) | WAIT | 172.0 (22.6) | 172.4 (24.0) | -0.18 | 0.86 | -0.02 (-0.40 – 0.37) |  |  |  |  |
| *Note.* WAIT = waiting-list; SD = standard deviation; CI = confidence interval. *n*MBCT = 38; *n*WAIT = 52. | | | | | | | | | | |
| a Estimate based on adjusted means | | | | | | | | | | |
| \**p*<0.05. | | | | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Supplementary Table 2. Clinically relevant improvement and recovery – per-protocol (*n* = 96) | | | | | | | |
| Improved, *n* (%) | | | Recovery, *n* (%) | | | | |
|  | MBCT | WAIT |  | MBCT | | WAIT | |
| Improved a | 15 (37) | 6 (10) | Recovered c | 8 (20) | | 5 (9) | |
| No change | 21 (55) | 50 (88) | Unrecovered | 31 (80) | | 52 (91) | |
| Deteriorated b | 3 (8) | 1 (2) |  |  |  |  |  |
| *Note.* WAIT = waiting-list. *n*MBCT = 39; *n*WAIT = 57. | | | | | | | |
| Both improved and recovered: MBCT *n* = 7 (17%); WAIT *n* = 0 (0 %). | | | | | | | |
| a Reliable Change Index score > 1.96 | | | | | | | |
| b Reliable Change Index score < -1.96 | | | | | | | |
| c Subjective fatigue score < 27 | | | | | | | |