

Supplemental Tables for:
 Randomized Trial of a Tailored Cognitive-Behavioral Therapy Mobile Application for Anxiety in Patients with Incurable Cancer
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Table S1. Within and Between Group Differences in Primary and Secondary Study Outcomes Using Multiple Imputation

Outcome Measure	Health Education Control Within-Group Mean Change Over Time (N=73)			CBT Mobile App Intervention Within-Group Mean Change Over Time (N=72)			Between Group Mean Differences	
	Adjusted Mean Change (SE)	95% CI	Cohen's d	Adjusted Mean Change (SE)	95% CI	Cohen's d	Adjusted Mean Difference (SE)	p- value
Primary								
HAM-A	-2.16 (1.00)	-4.12, -0.19*	0.25	-3.35 (0.96)	-5.24, -1.46*	0.41	1.20 (1.44)	.407
CGI	-0.66 (0.13)	-0.92, -0.39*	0.59	-0.68 (0.13)	-0.94, -0.42*	0.62	0.02 (0.19)	.913
Secondary								
HADS-A	-3.52 (0.43)	-4.36, -2.67*	0.96	-4.35 (0.44)	-5.21, -3.49*	1.17	0.83 (0.62)	.181
HADS-D	-1.35 (0.39)	-2.12, -0.58*	0.41	-1.93 (0.39)	-2.70, -1.17*	0.58	0.58 (0.55)	.291
PHQ-9	-2.07 (0.58)	-3.21, -0.93*	0.42	-2.23 (0.57)	-3.35, -1.12*	0.46	0.16 (0.80)	.837
FACT-G	7.80 (1.63)	4.61, 10.99*	0.56	7.94 (1.64)	4.73, 11.15*	0.57	-0.14 (2.32)	.951

*P-values<.05

Note: Results from ANCOVA models controlling for baseline values of criterion outcomes and psychotropic medication use

Abbreviations: SE = standard error; CI = Confidence Interval; Cohen's d = $(\text{Mean}_{\text{post}} - \text{Mean}_{\text{baseline}}) / \text{SD}_{\text{diff}}$ with 0.2, 0.5, and 0.8 corresponding to small, medium, and large effect sizes respectively; HAM-A = Hamilton Anxiety Rating Scale; CGI = Clinical Global Impression Scale; HADS-A = Hospital Anxiety & Depression Scale-Anxiety Subscale; HADS-D = Hospital Anxiety & Depression Scale-Depression Subscale; PHQ-9 = Patient Health Questionnaire-9; FACT-G = Functional Assessment of Cancer Therapy-General

Table S2. Effects of Intervention Dose on Primary and Secondary Outcomes Using Multiple Imputation

Outcome Measure	Differences between CBT Mobile App Intervention Completers (n=40) vs Health Education Control Group (n=73)			Differences between CBT Mobile App Intervention Completers (n=40) vs CBT Mobile App Intervention Non-Completers (n=32)		
	Adjusted Mean Difference (SE)	95% CI	p-value	Adjusted Mean Difference (SE)	95% CI	p-value
Primary						
HAM-A	2.55 (1.62)	-0.63, 5.74	.116	3.45 (1.90)	-0.28, 7.19	.070
CGI	0.30 (0.22)	-0.13, 0.73	.168	0.59 (0.27)	0.07, 1.11	.026
Secondary						
HADS-A	1.68 (0.71)	0.29, 3.07	.018	1.84 (0.87)	0.14, 3.54	.034
HADS-D	1.23 (0.63)	0.004, 2.46	.049	1.41 (0.78)	-0.12, 2.93	.070
PHQ-9	1.49 (0.86)	-0.19, 3.17	.082	2.80 (1.12)	0.60, 4.99	.012
FACT-G	-4.36 (2.46)	-9.15, 0.44	.075	-9.25 (3.52)	-16.15, -2.35	.009

Note: Results from ANCOVA models controlling for baseline values of criterion outcomes and psychotropic medication use

Abbreviations: SE = standard error; CI = Confidence Interval; HAM-A = Hamilton Anxiety Rating Scale; CGI = Clinical Global Impression Scale; HADS-A = Hospital Anxiety & Depression Scale-Anxiety Subscale; HADS-D = Hospital Anxiety & Depression Scale-Depression Subscale; PHQ-9 = Patient Health Questionnaire-9; FACT-G = Functional Assessment of Cancer Therapy-General

Table S3. Moderation Effects of Baseline Anxiety (HAM-A Scores) on Primary and Secondary Outcomes Using Multiple Imputation

Outcome Measure	Health Education Control Within Group Mean Change Stratified by Baseline HAM-A Scores		CBT Mobile App Intervention Within Group Mean Change Stratified by Baseline HAM-A Scores		Group X Baseline Anxiety (HAM-A Scores) Interaction	Between Group Mean Differences Stratified by Baseline HAM-A Scores	
	Adjusted Mean Change (SE)	95% CI	Adjusted Mean Change (SE)	95% CI	p-value	Adjusted Mean Difference (SE)	p-value
HAM-A					.038		
HAM-A \geq 25 (n=34)	-7.01 (1.90)	-10.74, -3.28	-13.68 (2.23)	-18.07, -9.29		6.67 (2.93)	.023
HAM-A<25 (n=111)	-0.64 (1.14)	-2.88, 1.59	-0.40 (1.05)	-2.47, 1.66		-0.24 (1.61)	.882
CGI					.072		
HAM-A \geq 25 (n=34)	-0.66 (0.28)	-1.20, -0.12	-1.33 (0.33)	-1.98, -0.69		0.67 (0.44)	.131
HAM-A<25 (n=111)	-0.68 (0.16)	-0.99, -0.37	-0.48 (0.15)	-0.78, -0.19		-0.20 (0.22)	.358
HADS-A					.013		
HAM-A \geq 25 (n=34)	-2.00 (0.95)	-3.88, -0.13	-5.86 (1.06)	-7.94, -3.78		3.86 (1.42)	.007
HAM-A<25 (n=111)	-4.03 (0.48)	-4.97, -3.10	-3.98 (0.47)	-4.91, -3.05		-0.06 (0.68)	.933
HADS-D					.119		
HAM-A \geq 25 (n=34)	-0.47 (1.00)	-2.44, 1.51	-2.61 (1.08)	-4.74, -0.49		2.14 (1.44)	.136
HAM-A<25 (n=111)	-1.67 (0.42)	-2.49, -0.85	-1.76 (0.41)	-2.56, -0.96		.09 (0.59)	.880
PHQ-9					.423		
HAM-A \geq 25 (n=34)	-0.80 (1.37)	-3.49, 1.89	-2.70 (1.61)	-5.86, 0.47		1.89 (2.20)	.389
HAM-A<25 (n=111)	-2.39 (0.61)	-3.59, -1.18	-2.25 (0.59)	-3.40, -1.09		-0.14 (0.85)	.870
FACT-G					.151		
HAM-A \geq 25 (n=34)	8.46 (3.52)	1.55, 15.36	14.13 (3.99)	6.32, 21.94		-5.67 (5.50)	.302
HAM-A<25 (n=111)	7.68 (1.88)	4.00, 11.37	6.20 (1.82)	2.64, 9.76		1.48 (2.66)	.577

Note: All analyses controlled for baseline values of criterion outcomes and psychotropic medication use

Abbreviations: SE = standard error; CI = Confidence Interval; HAM-A = Hamilton Anxiety Rating Scale; CGI = Clinical Global Impression Scale; HADS-A = Hospital Anxiety & Depression Scale-Anxiety Subscale; HADS-D = Hospital Anxiety & Depression Scale-Depression Subscale; PHQ-9 = Patient Health Questionnaire-9; FACT-G = Functional Assessment of Cancer Therapy-General