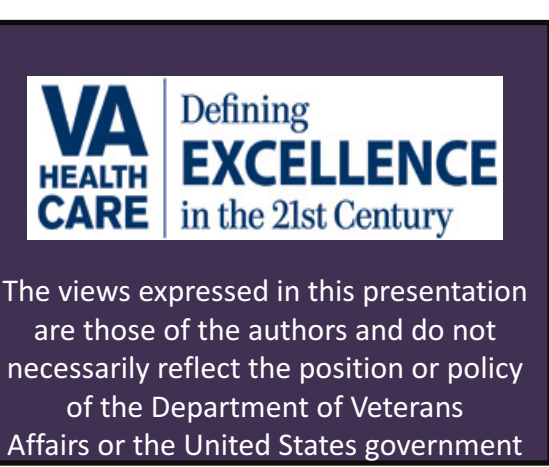




Collaborative Management of PTSD Treatment through Smartphone Apps: What Is Available and Accessible?

Brown, E.K.¹, Benzer, J.K.^{2,3}, Creech, S.K.^{1,4}, Kum, H.C.⁵, Lawley, M.^{6,7}, Sasangohar, F.⁶

¹ VA VISN17 Center of Excellence for Research on Returning War Veterans; ² VISN1 Center for Healthcare Organization and Implementation Research; ³ Boston University; ⁴ Alpert Medical Center, Brown University; ⁵ Texas A&M Health Science Center; ⁶ Texas A&M Industrial & Systems Engineering; ⁷ Center for Remote Health Technologies and Systems



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INTRODUCTION

By integrating smartphone apps into standard treatment, clinicians may potentially improve treatment quality, expedite its process, and reduce barriers to access.

Smartphone apps can complement PTSD treatment in a variety of ways.¹⁻²

- e.g. Homework tools, psychoeducation

Recent research has shown that apps are a feasible method for enhancing standard treatment for PTSD.³

- 76% of Veterans receiving outpatient treatment for PTSD reported owning a smartphone⁴
- 85% reported interest in at least one potential use of an app as part of therapy⁴
- VA clinicians trained in evidence-based treatment for PTSD generally find treatment integration of smartphone apps to be favorable⁵

There are few comprehensive resources available to find information on smartphone apps that can be used in collaboration with standard treatment for PTSD.

References: ¹Price et al., 2014; ² Donker et al., 2013; ³ Kuhn et al., 2014; ⁴ Erbes et al., 2014; ⁵ Kuhn et al., 2014

METHOD

Systemic Review of Publicly Available Smartphone App Information

This study utilized an extensive web search to locate as many relevant smartphone apps for individual treatment of PTSD as possible with a variety of web locations and search criteria.

Web search for relevant apps:

- Search Engines,
 - e.g., Google.com
- Online Forums and Communities,
 - e.g., Reddit.com
- App Rating Sites,
 - e.g., Mobileaction.com
- Government Mobile App Sites
 - e.g., t2health.dcoe.mil

Mental health or treatment apps had to be relevant to PTSD.

- Could not be specific only to other diagnoses

Apps for PTSD symptoms (e.g., insomnia) had to either be specific to PTSD or generalizable across mental health conditions.

Information collected on each app is as follows:

- Utility
 - Designed for Treatment Integration
 - Education
 - Exercises
 - Symptom Tracking
 - Outside Professional Support
 - Outside Peer Support
- Cost
- Minimum Software Required
- Number of Reviews
- Overall Rating

Characteristics of Currently Available Apps

App Theme	Sample Characteristics of Currently Available Apps							Total Apps	iOS	Android
	Treatment Integration	Education	Exercises	Symptom and Progress Tracking	Outside Professional Support	Outside Peer Support				
1 PTSD	0	4	7	2	1	1		6	9	
2 Mental Health (including PTSD)	0	2	2	5	0	1		5	4	
3 VA PTSD Treatment	2	4	9	4	0	0		7	5	
4 Mindfulness and Relaxation	0	5	21	5	2	1		21	16	
5 Anger	0	3	6	1	0	0		3	4	
6 Insomnia	0	3	10	3				11	9	
7 Peer Support	0	2	0	0	1	5		4	4	
Total	2	23	55	20	4	9		113	51	

RESULTS

113 apps were found and included in this review

Treatment Integration: Of these, only TWO were designed explicitly for integration with standard treatment

CPT Coach

- Companion to standard CPT treatment
- Allows for clinicians and patients to create and adjust homework assignments
- Explicitly not for standalone treatment
- Includes psychoeducation, homework forms, reminders, and adherence tracking

PE Coach

- Companion to standard PE Treatment
- Allows for clinician and patient to create and adjust homework assignments
- In-session recording for homework use
- Includes psychoeducation, homework forms, reminders, and adherence tracking
- Clinician manual available

App Name	Designed for Treatment Integration	Education	Exercises	Symptom and Progress Tracking	Outside Professional Support	Outside Peer Support	iOS	Android	Cost of App (USD Dollars)			Minimum iOS Software Version			Overall iOS Rating (out of 5)			Minimum Android Software Version			Overall Android Rating (out of 5)		
									Cost of App	Minimum iOS Software Version	Overall iOS Rating	Cost of App	Minimum iOS Software Version	Overall iOS Rating	Cost of App	Minimum Android Software Version	Overall Android Rating	Cost of App	Minimum Android Software Version	Overall Android Rating			
1 CPT Coach	X	X	X	X			X		0	7.1	6	3	NA	NA	NA	0	8	115	4	2.1	607	3.6	
2 PE Coach	X	X	X	X			X	X	0	4.3	14	4	NA	95	4	5.99	3	32	4.5	NA	NA	NA	
4 iCBT Trauma		X	X				X		0.99	3	7	2.5	NA	NA	NA	0	5.1.1	NR	NR	2.2	1	5	
5 ACT Coach		X	X	X			X		0	8	NR	NR	NA	NA	NA	0	9.99	5.1.1	NR	NR	2.2	NR	NR
6 ACT Companion			X	X			X	X	9.99	7	10	4	4	62	4.4	2.99	6	NR	NR	2.3.3	NR	NR	NR
7 Anxiety Release Based on EMDR			X				X	X	4.99	5	8	4	4	41	4.5	4.99	NA	NA	NA	1.6	NR	NR	NR
8 EyeMove X EMDR Trauma Therapy			X				X		0	NA	NA	NA	4.1	29	3.9	0	NA	NA	NA	2.3	12	4.6	
9 EyeMove 1 EMDR Trauma Therapy			X				X		0	NA	NA	NA	4	50	3.6	0	NA	NA	NA	2.2	2	3	

In Development: Five apps currently in development were found that met inclusion criteria.

- Descriptions did not indicate integration with in-office treatment

App Name	Designed for Treatment Integration	Education	Exercises	Symptom and Progress Tracking	Outside Professional Support	Outside Peer Support	iOS	Android	Cost of App (USD Dollars)			Minimum iOS Software Version			Overall iOS Rating (out of 5)			Minimum Android Software Version			Overall Android Rating (out of 5)		
									Cost of App	Minimum iOS Software Version	Overall iOS Rating	Cost of App	Minimum iOS Software Version	Overall iOS Rating	Cost of App	Minimum Android Software Version	Overall Android Rating	Cost of App	Minimum Android Software Version	Overall Android Rating			
1 iecChange	X	X	X		X		X	X	0	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	2.2	42	3.4	
2 Trauma Recovery Coach		X					X	X	0	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA
3 STAIR Coach			X				X		0	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA
4 Insomnia Coach		X	X	X			X		0	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA
5 iIMS			X				X		0	NA	NA	NA	NA	NA	NA	0	NA	NA	NA	2.2	2	3	

Limitations

The web search used to find relevant apps for this study may have missed relevant apps to this study

Apps specific to other conditions that still could still be useful for someone with PTSD, or in treatment for PTSD may have been excluded

- Apps for disorders whose symptoms overlap with PTSD (e.g., depression app to treat insomnia)

Information collected is only as current as the time of data collection.

- Variables are subject to update

Metrics used were those made publicly available

- Number of reviews and rating score may not represent the full extent of app usage.

Variation: Apps collected were from a variety of sources.

- Emergent themes were added during data collection (e.g., Anger)

Use: 111 of the apps were designed to be stand-alone in what utilities they offered.

- Standalone treatments for PTSD or its symptoms (e.g., PTSD Coach)
- Symptom management, skills training, psychoeducation, etc...

Cost: Almost all apps were free or inexpensive to download

Ratings: Mindfulness/relaxation apps were the most abundant, highly rated, and frequently rated.

- Most mindfulness/relaxation apps offered the same features (e.g., meditation exercises)

App Name	Designed for Treatment Integration	Education	Exercises	Symptom and Progress Tracking	Outside Professional Support	Outside Peer Support	iOS	Android	Cost of App (USD Dollars)			Minimum iOS Software Version			Overall iOS Rating (out of 5)			Minimum Android Software Version			Overall Android Rating (out of 5)		
									Cost of App	Minimum iOS Software Version	Overall iOS Rating	Cost of App	Minimum iOS Software Version	Overall iOS Rating	Cost of App	Minimum Android Software Version	Overall Android Rating	Cost of App	Minimum Android Software Version	Overall Android Rating			
1 PTSD Coach	X	X	X	X			X	X	0	8	115	4	2.1	607	3.6	0	8	115	4	2.1	607	3.6	
2 PTSD Eraser		X					X		5.99	3	32	4.5	NA	NA	NA	0	5.1.1	NR	NR	2.2	1	5	
3 Vital Tones PTSD			X				X	X	0	5.1.1	NR	NR	2.2	1	5	0	5.1.1	NR	NR	2.2	NR	NR	
4 Vital Tones PTSD Pro			X				X	X	9.99	5.1.1	NR	NR	2.2	NR	NR	0	9.99	5.1.1	NR	NR	2.2	NR	NR
5 PTSD Symptoms & Suggested Treatment		X					X	X	2.99	6	NR	NR	2.3.3	NR	NR	0	2.99	6	NR	NR	2.3.3	NR	NR
6 Fighting PTSD		X					X		0.99	NA	NA	NA	2.1	2	3	0	0.99	NA	NA	NA	2.1	2	3
7 Heal Post Traumatic Stress Disorder			X					X	4.99	NA	NA	NA	1.6	NR	NR	0	4.99	NA	NA	NA	1.6	NR	NR
8 PTSD Free			X				X		0	7	NR	NR	NA	NA	NA	0	7	NR	NR	NA	NA	NA	
9 PTSD Stops Here			X					X	0	NA	NA	NA	2.3	12	4.6	0	NA	NA	NA	2.3	12	4.6	
10 PTSD Checklist				X				X	0	NA	NA	NA	2.2	42	3.4	0	NA	NA	NA	2.2	42	3.4	
11 PTSD Support		X				X		X	0	NA	NA	NA	2.2	2	3	0	NA	NA	NA	2.2	2	3	

Barriers to Accessibility:

Some apps required recent iOS or Android to be used, which may not be an option for older smartphones

- E.g., PTSD Coach, iOS 8.1

While apps were generally inexpensive to download, several included in-app purchases or equipment

- This was especially prevalent for Mindfulness/Relaxation apps, in which lessons could cost up to \$20 each

Conclusions & Implications

While there are several smartphone apps that offer stand-alone clinical utility, very few apps include components specific to treatment integration.

- Given the potential benefits to treatment for PTSD by integrating smartphone apps, these results may imply that apps are an underdeveloped method of increasing access and continuity of care past regularly scheduled office visits
- There may be limitations to access to some apps (e.g., software requirements)
- This review did not find any apps in development that are being built specifically for treatment integration

The challenge of this conclusion is to determine how to best integrate information from apps into on-going treatment.