



### Background

Dissemination of evidence-based care for PTSD and trauma-related complications is challenged by insufficient availability, high individual or societal costs and social stigma. Interventions through technical platforms could overcome such obstacles. Multiple short-term assessments (ecological momentary assessment: EMA) elucidate how app use and well-being develops over time, and indicate the effective aspects of an intervention.

### Objective

Evaluate an app-administered self-help intervention (PTSD Coach Sweden) to reduce and manage PTSD symptoms and other related complications.

### Method

#### Participants

200 adults from Sweden. The Regional ethical review board in Uppsala, Sweden, approved the study procedures (Dnr 2018/319) prior to data collection. Enrollment began May 9th 2019 through social media advertisement and the project webpage.

#### Procedure

Data were collected and managed using REDCap (Research Electronic Data Capture) hosted at Uppsala University, Sweden. The procedure was semi-automated (manual administration indicated in fig. 1) and performed remotely. Informed consent was stored on a separate server and encrypted using VeraCrypt software. A licensed psychologist assessed eligibility, worst traumatic event and psychiatric comorbidity during the phone interview. EMA was administered at 9 a.m. and p.m.

#### Materials

**Intervention:** The purpose of the mobile app PTSD Coach Sweden is to manage and alleviate posttraumatic stress. The content is based on CBT-principles, with four modules for psychoeducation, self-assessment, exercises to handle symptoms and contact information for local support and crisis resources.

**Primary outcome:** PTSD symptom severity – Posttraumatic symptom Checklist for DSM-5 (PCL-5)

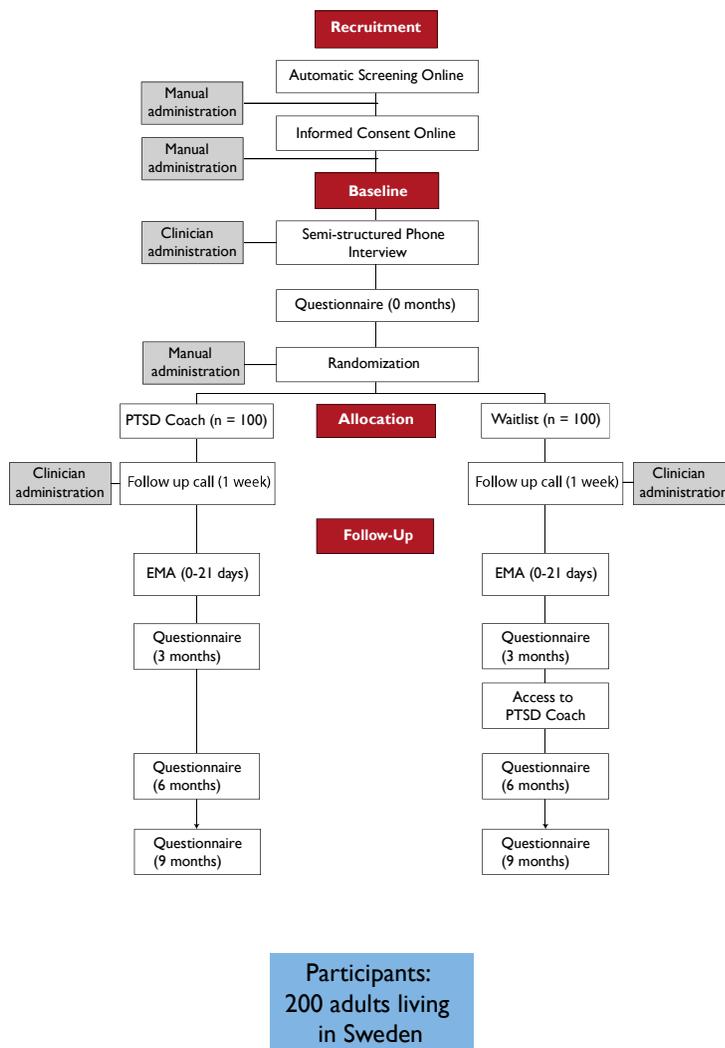
**Other measures:** Exposure to traumatic events – Life Events Checklist (LEC)  
Depressive symptoms – Patient Health Questionnaire (PHQ-9)

Psychiatric comorbidity – M.I.N.I. International Neuropsychiatric Interview (Swedish) 7.0.0

**Health status and use of strategies –** One-item questions such as “How would you rate your health status right now?” and “The past 12 hours, to what extent have you...[used strategy corresponding to app content]?”

Planning and automatizing app interventions can become expensive, time-consuming and require technical, legal, scientific and security expertise, but can benefit both researchers and participants.

Fig. 1 Procedure



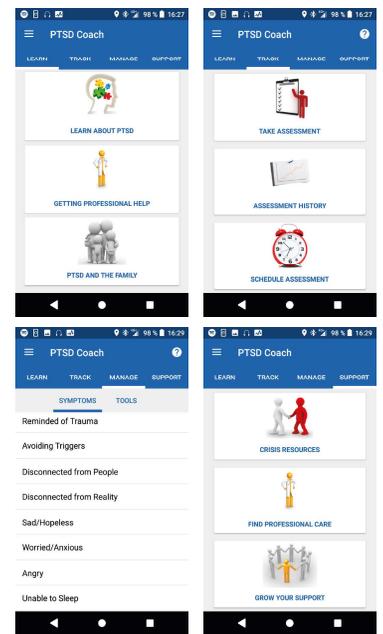
#### Inclusion criteria:

- > 18 years old
- Resides in Sweden
- Swedish (verbal and written) comprehension
- Owens smartphone
- Potentially traumatic event (DSM-5) < 2 years

#### Exclusion criteria:

- Current exposure traumatic event
- Current or planned psychotherapy
- Recent or planned changes of medication
- Counter-indicative medication
- Positive screening for bipolar, psychotic, substance/alcohol abuse disorder
- Severe suicidal ideation

Fig. 2 Intervention modules



### Lessons learned

- Programming consultation is expensive and time-consuming
- Unclear how to meet requirements of GDPR and internal regulations for software resources
- Waiting for clear instructions meant waiting indefinitely

### Recommendations

- Plan for software updates
- Recruit app development expertise specifically
- Enable remote participation
- Automate procedure
- Assume choice of procedure is approved, until you figure out otherwise - in that case, revise



Hensler, I., Sveen, J., Cernvall, M., Arnberg, F.  
 National Centre for Disaster Psychiatry, Uppsala University, Sweden  
 Contact Ida Hensler  
 PhD student  
 ida.hensler@neuro.uu.se  
 +4618-6170896  
 Webpage: <https://bit.ly/2vOraQD>

Visit our project webpage

