Identifying Opportunities for Improving the PTSD Care with Treatment-Supportive Technologies

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1. Background

- Post-Traumatic Stress Disorder (PTSD) is an anxiety based psychiatric condition that is experienced by individuals after exposure to an event that concerns a life threat along with feelings of fear, helplessness and horror.
- Many veterans from recent wars are suffering from PTSD. Around 14 – 16% of deployed U.S. military personnel may be associated with symptoms of PTSD (Hoge et al., 2004; Tanielian & Jaycox, 2008).
- Only about 40% of returning veterans from Iraq are interested in receiving help for PTSD, depression or general anxiety disorder three months post deployment (Brown et al., 2011).
- Strong risk factors for PTSD amongst veterans include perceived threat on life, combat-related injury, peritraumatic distress, lack of social support, negative homecoming experiences (reintegration into society), exposure to additional life stressors (Cabrera et al., 2007).

2. Research Aims

Aim 1: Identify opportunities for improvement in the current pathways for PTSD care

Aim 2: Derive functional requirements to inform the design of novel PTSD treatment-supportive technologies

Critical Need: To clearly identify opportunities to support the current pathways for PTSD care with technological interventions that meets the needs of veterans with PTSD

3. Methods & Work In Progress

3.1 Methods for data collection and analysis

- Data collection: Ideas for novel PTSD supportive technologies have been generated and validated through iterative semi-structured interviews with subject-matter experts (SMEs) – i.e., 21 veterans diagnosed with PTSD. 19 out of the total 21 SMEs were recruited among the participating veterans in Project Hero Challenge at Washington D.C. (May 2017), Great Lakes (August 2017), and California (October 2017).

3.2 Work in Progress for Aim 1: Identifying Opportunities for Improvement in the Current Pathways for PTSD Care

- The current system 1) lacks considerations of the unique characteristics of veterans with PTSD and 2) lacks treatment control in-between sessions.

3.3 Work in Progress for Aim 2: Deriving Functional Requirements of Novel PTSD Treatment-Supportive Technologies

- To tackle such challenges, findings suggest key changes to be made during in-between sessions by providing a tool that supports continuous objective monitoring, preemptive trigger alert, trigger self-resolving exercises, memory-aid, and peer-to-peer connection.

5. Implications

- The findings are expected to provide a user-centered perspective to the process of designing novel PTSD treatment-supportive technologies and enable them to be better integrated with the current care system.

6. Future Work

- Data collection and analysis are in progress to validate and refine the understanding on improvement opportunities and technological interventions.
- Currently developing a smartwatch technology (sensor-enabled mobile device) to remotely collect information pertinent to periods of episodes.
- Functional requirements for between session technology and clinician technology derived from this study inform the user-centered design of the smartwatch technology.

References:


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