



SELMA – Text-based Healthcare Chatbot Coaching to Reduce Stress of People Suffering from Chronic Pain and Migraine

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Background



- High prevalence of chronic conditions such as pain and migraine (8) (9)
- Chronic conditions are related to stress and decreased quality of life (1) (6)
- Chronic conditions have negative impact on productivity (7)
- Intervention paradigm of chronic conditions is to focus on prevention as well as change in health behavior and lifestyle (3) (4)
- Chatbots have been increasingly used in healthcare, but with limited proof of effectiveness (5)

Purpose of this research

- To design, develop and implement a textbased healthcare chatbot to help individuals with chronic pain /migraine for stress-management
- To evaluate effectiveness, working alliance, and feasibility of the text-based healthcare chatbot in comparison to usual care.

Methods

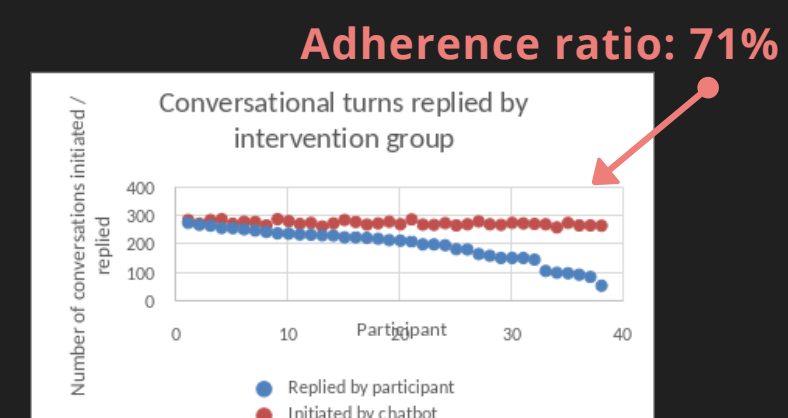
- Develop a rule-based & decision-tree chatbot (conversational agent) to deliver just-in-time adaptive interventions
- Use of cognitive behavioral therapy and mindfulness-based elements to support stress management
- Conduct randomized controlled trials RCT for evaluation:
 - Pilot RCT to test feasibility and preliminary effectiveness
 - Micro RCT to test intervention components
 - RCT to test effectiveness

Outcomes: Burden, stress, well-being, pain, anxiety, depression, working alliance and adherence

Results

Preliminary (2)

- Working alliance was comparable to guided internet therapies with human coaches
- Participants enjoyed using the app:
 - Useful and easy to use
 - Replies with an average answer ratio of 0.71 (SD 0.20) to 200 (SD 58.45) conversations initiated by SELMA



- Appreciation of the empathic and responsible interaction
- Main criticism from participants:
 - No option to enter free text
 - Limited personalization

Expected

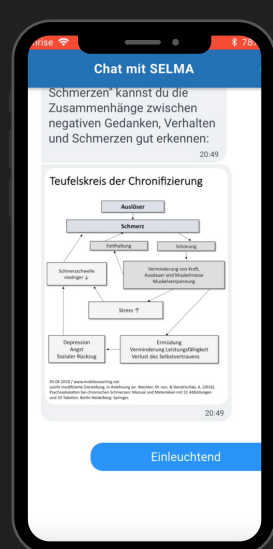
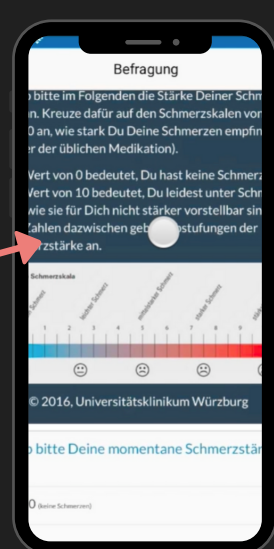
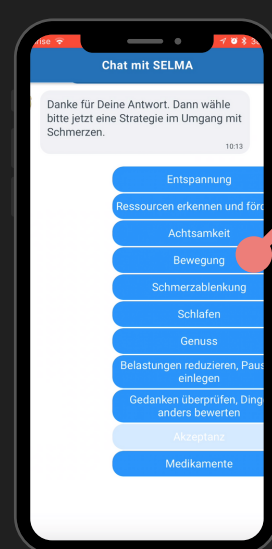
- Can a chatbot be applied as an effective therapy tool to support stress management?

- Does empathic communication style help to increase effectiveness, working alliance, and adherence?

- Insights into process related aspects such as barriers and facilitators to adherence, feasibility and self-efficacy

Module selection - tailoring

Tools: Pics, videos, audios, etc-



Data collection

References and partners

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