CAREWEAR: IMPLEMENTATION OF WEARABLE TECHNOLOGY IN MENTAL HEALTHCARE

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BACKGROUND

• WHO states that stress-related problems and depression are currently the most important challenges in mental healthcare.
• Technological innovations provide novel means for ambulatory monitoring and raising awareness for these mental illnesses.
• Wearables collect continuous & ecologically valid physiological data that can inform on both risk factors and the process of recovery in mental disorders (Haberer et al. 2013).
• The Carewear project aims to validate an online platform that will allow health care professionals to use wearable data in their clinical practice.

COMPONENTS OF CAREWEAR

• Wristbands for continuous monitoring (Figure 1)
• Algorithms to transform raw data into clinically relevant indicators
• Computer-based software platform (Figure 2) with:
  • Physical activity (step count and activity)
  • Stress situations
  • Subjective state
  • Heart rate variability
• Clinical guidelines allowing professionals to use physiological data in evidence-based practice

METHOD

• The added value of wearable technology will be investigated in 2 use cases
  1) Treatment of depressive symptoms
  2) Employee assistance programs
• Procedure of the use cases

Questionnaires:
DASS, UTAUT, UBOS, BAT, VOB, UCL

Regular treatment + Carewear
DASS, UTAUT, UBOS, BAT, VOB, UCL

REFERENCES


MORE INFORMATION: www.carewear.be Nele.Dw@thomasmore.be @care_wear

DISCUSSION

• Carewear aims to implement wearables as a useful addition to current best practice in the context of depression and burn-out.
• First experiences:
  • Large interest from mental health care professionals to apply Carewear.
  • End-user involvement ensures that the platform and guidelines meet the current clinical needs.
  • Still some technical challenges, but first proof of concept is ready for the use cases.
• The implementation study is starting now and will run until the end of the year.

Figure 1. Empatica E4 (left) and imec Chill+ (right) wearables

Figure 2. Wireframes of the online platform.