

Impact of a tailored e-learning approach during cardiac rehabilitation

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BACKGROUND: Observing the current trend towards patient-centred care and shared decision making, patients want to become informed, active participants in their rehabilitation. However, optimal tailoring of e-learning and shared decision making is a challenge, given time constraints of clinicians and disparity between patient needs and caregiver perspectives. As education is one of the core components of cardiac rehabilitation we developed interactive tools to bridge the gaps in clinician-patient perspectives and address the aforementioned challenges. These mobile tools include a tailoring tool for clinicians to select personalized content, an e-learning tool for patients and a supportive tool for informal caregivers (e.g., friends or family of patients). We evaluated the usability of these mobile tools and their impact on enhancing patients' understanding during cardiac rehabilitation.

METHODS: The tailoring tool was evaluated in a lab study with 4 clinicians- a psychologist, a physiotherapist, a dietician and a cardiac nurse. Clinicians were asked to tailor e-learning content using the tool for 3 patient use cases. Usability, usefulness and relevance of tailoring were ranked on a 5-point Likert scale using a custom questionnaire. A 6-week field study with 5 CAD patients assessed the impact of the tailored e-learning using 3 intermediate questionnaires and a semi-structured interview. A final scenario-based lab study evaluated the usability and perceived usefulness of the informal caregiver tool with 5 participants. They ranked their opinions in a questionnaire using a 5-point Likert scale from 'strongly disagree' to 'strongly agree'.

RESULTS: All clinicians unanimously agreed that providing personalized sets of information to patients is a suitable approach. They all 'strongly agreed' with respect to usefulness of the tool to tailor e-learning content. All participating informal caregivers 'agreed' or 'strongly agreed' to being involved in the shared decision making process. However, there were mixed responses for their willingness to use a dedicated tool and the perceived usefulness of the application. At the end of the field study with a mobile app, all patients either 'agreed' or 'strongly agreed' usefulness, relevance and likeability of the tailored e-learning content. All patients mentioned that their knowledge and understanding improved. Three patients reported a reduction in fear and anxiety during self-management.

CONCLUSION: Mobile tools for tailoring e-coaching offer clinicians an opportunity to tailor information for patients in a structured and systematic manner. Tailored e-learning also facilitates in enhancing patients' understanding, confidence and reducing fear, which are known factors to promote better adherence to therapy. All stakeholders see the perceived benefits of tailoring e-learning and are willing to use such interactive mobile tools during rehabilitation.