

Clinical Research Results Abstract

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Ademgenoot – a serious game to motivate and empower asthma patients in adherence to their maintenance medication: a user-centered design study

Charlotte Poot¹, Jasmijn de Boer², Eline Meijer¹, Susanne van de Hei³, Job van Boven⁴, Janwillem Kocks⁵, Niels Chavannes¹
¹Department of Public Health and Primary Care, Leiden University Medical Center, Leiden, the Netherlands, ²Faculty of Industrial Design Engineering, Technical University Delft, Delft, The Netherlands, ³University of Groningen, University Medical Center Groningen, Department of Health Sciences, Groningen, the Netherlands, ⁴University of Groningen, University Medical Center Groningen, Department of Clinical Pharmacy & Pharmacology, Groningen, the Netherlands, ⁵General Practitioners Research Institute, Groningen, the Netherlands

Aim: This study aimed to develop a digital intervention that helps non-adherent asthma patients to adhere to their maintenance medication to promote better asthma control.

Background: Non-adherence and reducing over-reliance to SABA are considered important challenges in asthma treatment. Adherence monitoring via electronic monitoring devices (EMDs) provides promising ways for measuring adherence objectively. With digital interventions, such as EMDs connected to a smartphone, adherence interventions can be tailored to patients' needs, and important behaviour change elements can be incorporated. These include continued self-monitoring, motivational messages and symptom logging.

Method: The study employed a user-centered, participatory design approach, during which patients and healthcare professionals played an important part in the design process. The approach consisted of several iterative phases. Semi-structured interviews were held in combination with creative assignments to gain in-depth understanding of the needs, motivations and experiences of asthma patients regarding adherence to their maintenance medication. These insights were used to identify design opportunities which were translated into different concepts and prototypes. Prototypes were then evaluated on feasibility and user experience during multiple user-tests.

Results: Interviews with patients (n=16) and healthcare professionals (n=4) led to three important design insights which resulted in the development of the serious game 'Ademgenoot'. Ademgenoot aims to increase medication adherence by empowering the patient, working goal-oriented and by creating awareness of the positive outcomes of being adherent. User-tests demonstrated that 'Ademgenoot' is feasible in clinical practice and can empower patients to improve adherence to maintenance medication as part of their asthma self-management.

Conclusion: We developed a concept for (and prototype of) a serious game that meets patients' and healthcare professionals' needs and is designed to increase medication adherence. Moreover, this study demonstrates the importance of including users in the development of digital health interventions.

Declaration of Interest

This study is funded by AstraZeneca. All authors declare that they have no competing interests.