

Abstract

Pilot Study Evaluating the Usability and Acceptability of a Mobile App for Overactive Bladder Disease Management

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Abstract

Background: Overactive bladder (OAB), defined by urinary urgency with or without urge urinary incontinence (UI), usually with frequency and nocturia, can significantly impact patient's quality of life. Tracking symptoms is an important part of OAB management and has been shown to assist in enhancing patient interaction with health care providers (HCP) when discussing solutions for symptom management.

Objective: The primary goal of this study was to assess the usability and acceptability of an Android smartphone mobile app designed to help participants learn about OAB symptom management through tracking and self-management. Secondly, we also assessed engagement with the app over the three-month study period.

Methods: Eligible participants were experiencing OAB symptoms without an existing enlarged prostate or urinary tract infection (BPH/UTI), and enrolled through referrals from within the Partners Healthcare network. The mobile app was installed at the enrollment visit, and participants were instructed to complete monthly, 3-day symptom journals, as well as surveys and optional free-text notes for 12 weeks. Additionally, medication reminders, Kegel and bladder training exercises were available for use in the app. A visit with their HCP was scheduled between weeks 6 and 12 of the study for the HCP and participant to review collected symptom data via an app-linked portal. Qualitative input from the HCP, closeout participant interviews and app usage data (percent viewed and number of hits) were used to assess participant engagement. Closeout interviews (n=10) also assessed usability of the various app features. Demographic and usability satisfaction data were collected via questionnaires developed by investigators. Descriptive analyses were conducted to present the demographic and usability data. NVivo for Mac (version 11) was used to conduct a thematic analysis on qualitative data.

Results: Of the total enrolled (n=33), 26 participants completed the study. Participant engagement with the app was 100% for months one and two of the study then dropped to 72% by month three. Most participants (80%) reported using the app as needed vs regularly. As a group, female participants >50 years demonstrated the highest engagement (75%) at closeout. The most used app feature was the free-text diary feature (100%; 5516 hits), followed by the "event log" (100%; 2105 hits). The majority of other app features were also rated as useful by participants (52-100%). Participant interviews found the app was a valuable OAB information source, simplifying symptom tracking and follow-through on clinician recommendations. Perceived usefulness of the portal varied between primary care providers and specialists. Participants indicated the app was "Easy to Learn" (96%), "Simple to Use" (92%), useful for understanding changes in symptoms (91%), enabled better symptom tracking (96%), and facilitated communication with their HCP (75%).

Conclusions: A mobile app to increase awareness of OAB symptoms improved confidence in self-management for participants and increased access to data for decision making and participant communication for specialists. Participant-reported outcomes indicate that the tracking void frequency and urgency features were very useful, while other features such as medication reminders, pad usage, bladder and Kegel trainings were used less frequently among participants.

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KEYWORDS

self-management; overactive bladder; user-centered design; mobile application; usability

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