
Abstract

An mHealth App Designed for Fertility Patients: From Conception to Pilot Testing

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Abstract

Background: Infertility is a distressing chronic condition affecting one in six couples; many of them seek to achieve a pregnancy via assisted reproductive technologies. Online resources for information and support are a mainstay of the self-help strategies of fertility patients. Patients seek explanations online about their diagnoses and treatment options, and hope to connect with others who have lived through a diagnosis of infertility. However, medical information found online is often inaccurate or hard to understand. Importantly, online forums that might provide social support are seldom monitored, allowing for the dissemination of potentially misleading information. In this study we describe the development of an mHealth app, Infotility, designed to provide evidence-based reproductive health information and a monitored message board to provide social support to users.

Objective: The objective was to describe the steps involved in the production of an mHealth app created specifically for fertility patients.

Methods: Our team followed guidelines established for the development of complex health interventions. To evaluate the existing online information sources, we assessed web-based information on infertility using standardized tools for readability, suitability and quality. To determine our stakeholders' perspectives on what content to include in the app, a needs assessment survey was conducted in a sample of 289 male and 370 female fertility patients and 127 health care providers at clinics in Montreal and Toronto. A comprehensive review of the literature on the medical and psychosocial aspects of infertility was undertaken; summaries were then reviewed for accuracy and pertinence by patients, clinicians, researchers and professionals in the field of fertility. A technology partner was hired to create a user-friendly mobile app that contained the informational summaries, with separate portals for men and women, leading to content specifically curated for the user's interests. There was also a closed discussion platform, "Connect", monitored by 18 previous or current fertility patients. Peer monitors underwent one-on-one training and received an instructional manual created to assist with responding to forum messages from participants. Between November 2018 and April 2019, the app was pilot tested in a sample of 72 male and 187 female fertility patients to assess feasibility of recruitment, acceptability, and user satisfaction.

Results: Initial results show that men and women appreciated Infotility. The most popular sections included information on modifiable lifestyle risks (eg, diet, exercise, environment), and medical and psychosocial information. Men preferentially visited pages about lifestyle factors whereas the most common pages visited by women related to medical information. Importantly, the "Connect" social network logged 39 open forum conversations with 258 total posts, as well as 14 private messages. Both men and women lurked and posted on the board; women posted more often than men.

Conclusions: The design of a mobile health app for fertility patients should consider user experience and design along with the quality and accessibility of information. A fertility mHealth app should provide access to monitored social support through the interface and consider how to effectively tailor information to men and women.

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infertility; mobile health (mHealth); online information; peer support

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