Contraceptive Choices and Use Application (App) Development

Abstract

Background. Family planning saves lives of women and adolescents by allowing self-determination in limiting the number of births, spacing pregnancies, and avoiding of pregnancies in young adolescents and older women of childbearing age. In the U.S., the unintended pregnancy rate is 59% of all pregnancies while the unintended rate in adolescents is greater than 80%. In addition to saving lives, contraceptive services decreases the financial burden on the family and society by reducing costs related to pregnancy, delivery, and infant care. Long-acting reversible contraceptives (LARCs) such as the intrauterine device and contraceptive implant, are 99% effective by preventing gaps in administration and preventing unintended discontinuation of other contraceptive methods. In the U.S., rates of LARC use are low. Lack of awareness and knowledge about LARCs may contribute to their lack of use.

Purpose. The purpose of this paper is to describe the development of an app and its launch within one Midwestern U.S. county health department’s family planning clinic. The purpose of the app is to assist in the navigation through contraceptive choices, encourage LARCs knowledge, and ultimately, reduce the number of unintended pregnancies. This county population is at high risk for unintended pregnancies within a State that has an unintended pregnancy rate of 52% – higher than the national rate. Methods. The app was developed in a series of steps beginning with storyboarding and development of a concept map. The app was then installed on iPads with security and tamper protection near the waiting room of the family planning clinic for client use. Results. Several implications for future changes in (a) its presentation to clients at the health department and (b) the app format and delivery enhancements have been identified.

Available quality and of contraceptive counseling has been shown to impact women’s selection of contraceptives and the effectiveness of their use.

Health care providers have limited time to provide extensive counseling.

An application (app) for smart phones and tablets is one method to provide contraceptive education to clients (See Figure 1). The contraceptive education can be provided while the client is waiting for services and then be used as a means for the client to communicate with the health care provider (HCP).

No mobile app regarding contraceptive choices were found that were available for download from commercial app marketplaces. An app is an ideal avenue to reach adolescents and engage them in contraceptive decision-making as adolescents are speakers of the digital language of computers, the Internet, and mobile apps.

The purpose of this presentation is to describe the development of an application (app) using data that explores relationships among contraceptive choice and use with selected characteristics of clients from one Midwestern U.S. county health department’s family planning clinic who are at high-risk for unintended pregnancies. Goals for the app include: (a) involve clients in identifying contraceptive methods that are tailored to the client’s risk factors and needs using evidence-based information (See Figures 2 & 3); (b) Provide knowledge that compares and contrasts methods of contraception; (c) Encourage knowledge and selection of long-acting reversible contraception (LARC); (d) Reduce the unintended pregnancy rate, especially in the adolescent population; and (e) Explore relationships among tailored contraceptive choices and selected characteristics/preferences of clients (See Figure 4).

Implications for Future Development

Location of the tablets within the health department needs to be reviewed.

The client reviews the app on one of two iPads installed on a wall near the waiting area of the family planning clinic. Upon check-in at the clinic, the client is directed to go to the iPads to learn more about her personal birth control choices. Not all clients are using this service possibly because the app must be used while standing and the iPads are not located directly with the waiting area. Other options are being considered to make the iPads more accessible.

Another comment that has been received is that the information pages are too long. In a future release, we hope to have the information pages simplified. The pages will contain a brief description of the contraceptive method, hyperlinks to the individual questions about that method, a picture of the method, and a gauge of the effectiveness of the method.

The reading level needs to be reduced further. The Flesch-Kincaid grade level is often used as it is included in common word processing program. According to the National Institutes of Health, the Flesch-Kincaid grade level should be used with caution as the score tends to be 2-3 grade levels lower than other readability assessment tools. The Flesch-Kincaid grade level average for the information pages was 7.6, but increases substantially if the NIH caution is applied.

The app needs to be translated into Spanish. In a related study of the clientele of this family planning clinic, 20% of the clients were Spanish speaking. While translators are available, there is rarely more than one translator at any time in the clinic. The app translation into Spanish is eagerly awaited.

Support for all iOS devices with wide release would be most beneficial to the users. The app was initially intended to be displayed on two iPads in one family planning clinic. The app will be adapted into an iPhone version where it will be available in the iTunes App Store for all iOS users. An Android version is anticipated to be available in the near future.

Auditory and visual enhancements could make the app enhance different learning styles. Additional funding will be sought to add voice-overs in both the English and Spanish versions of the app. This will ensure that the content can be understood if the user is a low reading level or the terminology is difficult. Videos of medical experts discussing the contraceptive methods and/or clients telling their experiences with the methods may also be added in the future.

Relationships among tailored contraceptive choices and selected characteristics/preferences of clients need to be explored. Anonymous data collected through the app will need to be analyzed (See Figure 7).

Selected References