SEXUAL HEALTH IN YOUR HANDS: HOW THE SMARTPHONE APPS CAN IMPROVE YOUR SEXUAL WELLBEING?

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Available online 22 May 2018

SUMMARY In recent years, the numbers of smartphone users has surged across the world and downloads of smartphone apps have grown significantly, with smartphone usage increased to 73% among American adolescents since 2013. The main goal of this article is to present a review of the literature focusing the use of smartphone applications to improve sexual health. Using a smartphone application to provide sexual health information, especially to younger populations, might aid in increasing awareness of sexual risk behaviors before sexual debut. Providing accurate, comprehensive, and up-to-date sexual health education materials through smartphones vs websites might improve their sexual health outcomes. However, there are few smartphone applications related to sexual and reproductive health that are available to users. Research has shown that 80% of Internet users in the United States search online for health information, and that young people are gathering health information using mobile devices with increasing frequency, including sexual health information. However, while new technologies, including smartphone apps, are used to facilitate health information seeking, health-related apps are infrequently downloaded and rarely used. This suggests that, to promote sexual health through smartphone apps, researchers could partner with app developers in order to integrate sexual health promotion interventions in popular sex-related or dating apps. However, it is evident that these apps provide novel opportunities to engage at-risk populations in sexual health.
interventions. Several studies have suggested that young adults consider sexual health promotion via apps acceptable. Future research should focus on evaluating these efforts specifically in the reduction of negative sexual health consequences such as a decrease of STIs and unintended pregnancies as well as whether a sexual health app can link clients to health services. Our results could help clinicians by offering information about the potential use of smartphone apps to increase sexual health.

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Introduction

In recent years, the numbers of smartphone users has surged across the world and downloads of smartphone apps have grown significantly (Bert et al., 2014), with smartphone usage increased to 73% among American adolescents since 2013 (Alptraum, 2013). Just to give an example of what it is happening in Western Countries, over half of adults in the US, across all income groups, own a smartphone (Smith, 2012) and nearly one-third of users reported having downloaded at least one health-related application (“app”; Rainie, 2012). Smartphone apps provide a new platform for information distribution and networking (Huang et al., 2016). Mobile health (mHealth) applications refer to programs on one’s smart devices (e.g., phones, iPads, and computers) that can be used to promote well-being. The rapid growth and use of mHealth technological applications for mental health care have led to ground-breaking ways to treat psychological conditions but have also introduced new complications that have yet to be fully addressed. For instance, researchers have indicated that mHealth apps present opportunities for psychoeducation prior to treatment and stigma reduction and allow for clients to overcome the distance barrier in rural areas (Jones and Moffitt, 2016). This platform creates various opportunities for health promotion activities such as distributing health-related information, offering resources for health care, and providing forums for sharing experiences (Bert et al., 2016). However, many health-based apps already provide information to users, but few of them incorporate evidence-based theories for behavior change (West et al., 2012). The Internet has become an important and readily available medium also in exploring one’s sexuality (Galbreath et al., 2002). The empirical research on Internet sexuality has grown steadily since 1993. The most researched area to date has been the consumption of Internet pornography, which also has the greatest intensity of use compared to the other areas of Internet sexuality (Eleuteri et al., 2014), like sexual health. The aim of this article is to present a review of the literature focusing the use of smartphone applications to improve sexual health.

How the apps can improve health?

The benefits of using apps for health promotion are many, including low cost to develop and operate, potentially widespread distribution, and convenience for both health care providers and seekers (Bert et al., 2014). Additionally, these applications are cost-effective, increase accessibility to underserve and ethnic minorities, and facilitate the treatment process (Price et al., 2014; Smith, 2010). A recent review of medication adherence apps found that, as a whole, these tools could be helpful for patients struggling with long-term medication adherence (Dayer et al., 2013). Krishna et al. (2009) showed that mobile phone usage, incorporating abbreviated reminder services and general adolescent health education materials, can improve health outcomes especially among teenagers.

How the apps can improve sexual health?

New and innovative ways to deliver sexual health information are needed to better support clients. Using a smartphone application to provide sexual health information, especially to younger populations, might aid in increasing awareness of sexual risk behaviors before sexual debut. More than 46% of surveyed websites in 2010 that provided sexual health information contained errors or inaccurate content. Providing accurate, comprehensive, and up-to-date sexual health education materials through smartphones vs websites might improve their sexual health outcomes (Buhu et al., 2010). However, there are few smartphone applications related to sexual and reproductive health that are available to users (Brayboy et al., 2017).

The use of apps could provide a unique avenue to increase oral contraception (OC) adherence and thereby, reduce the risk of unplanned pregnancy. In fact, while young women have the highest risk of contraceptive failure (Kost et al., 2008), most also have constant access to their smartphone. One study aimed to systematically evaluate the utility of English language smartphone-platform OC reminder apps (Gal et al., 2015). In the summer of 2013, 39 OC reminder apps were available for download, in the US, on Android and/or iPhone smartphone platforms. Perhaps the most important finding from this study was that most apps (82%) reliably sent a daily reminder, at a time selected by the user, that an OC pill should be taken. Additionally, nearly all OC reminder apps functioned without Internet connectivity. None of the apps in this study generate an OC pill reminder if the smartphone is turned off. Likewise, no apps account for a user being away from her smartphone for an extended period of time.

On the basis of the growing use of social media and smartphones by teenagers to learn about sexual health, Girl Talk,
an app providing comprehensive sexual health education materials to girls’ ages 12 to 17 years was designed. Brayboy et al. (2017) proposed that introducing age-appropriate, comprehensive, and culturally representative sexual health materials through a free and readily accessible media format like Girl Talk would allow teenage girls to access information needed to improve knowledge of risky sexual behaviors. They also tested the feasibility and desirability of Girl Talk among female adolescents, proposing that this app could provide appealing and comprehensive sexual health information to a wide audience of teenage girls. Participants reported using Girl Talk for 48 minutes on average over the 2-week period. Fourteen participants (82.4%) stated that they used the application in increments of 10 to 15 minutes, and 15 out of 17 (88.2%) participants noted increased usage (i.e., 20 minutes) of Girl Talk during weekends. Improvements in knowledge among participants were noted for anatomy and physiology (70.5% to 74.7% out of 7 questions), sexuality and relationships (76.5% to 80.0% out of 10 questions), and STI prevention (75.6% to 79.0% out of 7 questions), which all exceed the 2.0% overall change in knowledge (76.7% to 78.7% out of 45 questions). No changes in knowledge were noted for mental and physical health or pregnancy prevention. The authors concluded affirming Girl Talk’s ability to convey sexual health information in a private, timely, and accurate manner. Providing content directly related to community-based resources also gave participants new information that was related to their daily experiences. The app also had the potential to bridge the gap between teenagers, medical providers, and parents by encouraging girls to initiate conversations about contraception use, body image, healthy lifestyles, and holistic well-being with trusted adults. Developing a smartphone application for comprehensive sexual health education is, therefore, feasible and practical. The application is well-liked, accessible, and can provide opportunities for clear, factual transmission of information to teenage girls. Smartphone apps have been shown to be highly effective in providing health information to teenagers (Brayboy et al., 2017).

Is it possible to increase sexual health using apps not specifically aimed to this focus?

In recent years, due to the increasing use of smartphones, apps designed to provide sexual health information and educations are readily available on the market. However, these apps are infrequently reviewed and are unlikely to reach the target groups (Muessig et al., 2013). A recent survey has found 137 sex-related app available; among them, just 12 (8.8%) were aimed to sexual education and information. Rather than creating new sexual health apps, leveraging established and popular apps may improve the distribution of health promotion information to a larger number of users. Most important, integrating sexual health information within these apps can be an effective way to reach key populations, such as MSM or people who have casual sexual partners (Holloway et al., 2014; Sun et al., 2015). In addition, it is possible for health professionals to harvest global positioning system data from the apps and provide services according to users’ physical locations, such as referral to STI testing centers (Sun et al., 2015). Several studies have suggested that young adults consider this approach acceptable (Holloway et al., 2014; Phillips et al., 2014; Sun et al., 2015).

Conclusion

Research has shown that 80% of Internet users in the United States search online for health information, and that young people are gathering health information using mobile devices with increasing frequency, including sexual health information (Eleuteri et al., 2017). However, while new technologies, including smartphone apps, are used to facilitate health information seeking, health-related apps are infrequently downloaded and rarely used (Eleuteri et al., 2017). This suggests that, to promote sexual health through smartphone apps, researchers could partner with app developers in order to integrate sexual health promotion interventions in popular sex-related or dating apps. However, it is evident that these apps provide novel opportunities to engage at-risk populations in sexual health interventions. Several studies have suggested that young adults consider sexual health promotion via apps acceptable (Holloway et al., 2014; Richman et al., 2014; Sun et al., 2015). The top features of an app selected among female students who expressed interest in using it to manage their sexual health included a period tracker (46%) and birth control reminders (43%). Thus, it appears that women are most interested in tracking their cycles and ensuring timely contraceptive use. Potentially, these features would be used to prevent pregnancy and perhaps to plan romantic activities around their menstrual cycle. Outside of female-specific features, both genders identify STI and a pregnancy symptom checker (females 30%; males 27%) as a top feature of sexual health app. Additional features of interest to both genders included alternatives to physical sex (e.g. 100 ways to make love without doing it) and safer sex games and trivia. Therefore, it appears that college students are also interested in an entertainment portion of a sexual health app. An app can best meet the interest of the target population by providing sexual health information in a creative and amusing context. Because the specific needs of male and female college students vary, sexual health apps should be tailored to meet the specific needs of these groups. The top features selected in a study (Richman et al., 2014) for women (period tracker, birth control reminders and STI and pregnancy symptom checker) and the top three for men (STI and pregnancy symptom checker, alternatives for physical sex and safer sex games and trivia) can be used to select already existing sexual health apps in these areas and evaluate current use, potential use and efficacy within population. Future research should focus on evaluating these efforts specifically in the reduction of negative sexual health consequences such as a decrease of STIs and unintended pregnancies as well as whether a sexual health app can link clients to health services. It would be interesting to know whether sexual health apps do in fact link people to local sexual-health-related community resources such as this or conversely whether apps divert away from seeing actual healthcare professionals in person. Future research should also assess the differences between apps and normal web-based search facilities and access (Richman et al., 2014),
including also the importance of creating specific sexual health apps or using dating apps to enhance sexual health. None of the apps in Gal’s study (2015) generate an OC pill reminder if the smartphone is turned off. Likewise, no apps account for a user being away from her smartphone for an extended period of time. Hence, it is critical for health care providers to inform users of potential pitfalls and advise them that an OC reminder app should be not be used as a sole reminder method.

Disclosure of interest

The authors declare that they have no competing interest.

References


