Digital interventions for sexual health promotion– opportunities and challenges

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Enhancing sexual health is a global public health priority. However, few countries provide comprehensive sex and relationships education; prevention is less of a funding priority than diagnosis and treatment; health services struggle to meet demand; and clinicians and patients can be reluctant to address sexual health issues in consultation.

Digital interventions delivered via the Internet or mobile phone may be particularly appropriate for sexual health, since it offers convenient, confidential and self-paced access.[1] In resource-rich countries, some populations at high risk of sexual ill-health are also heavy users of the Internet (e.g. young people, men who have sex with men, and sex workers), and mobile phone ownership is increasing globally. Digital interventions can potentially reach populations who may not otherwise engage with education or health services.

There are many opportunities for digital interventions before, during, or after clinical care, for example electronic history-taking and/or risk-assessment, triage (with the option of appropriate self-testing), and electronic decision-aids prior to an appointment. Digital interventions can exploit 'teachable moments' in clinics, for example providing tailored sexual health advice via interactive website, or health promotion videos in waiting rooms[2;3].

Digital systems may also enhance the reach and convenience of clinical services: for example, online test kit ordering with results by text or email (e.g. for Chlamydia or HIV), automated recall, and online partner notification for sexually transmitted infection treatment. Sexual health outreach on social networking websites is an avenue for sexual health promotion, and there are online support groups and discussion forums for specific conditions (e.g. for HIV, hepatitis, herpes), and online self-help programmes for sexual problems.[4;5] Digital media (especially mobile phones) can also be used to enhance medication adherence, for example to HIV treatment or oral contraceptive pills.[1] However, most digital systems linked with health services are designed to enhance the treatment of health problems rather than health promotion or prevention, and sexual wellbeing in particular is not addressed in clinics or schools (e.g. skills in building good relationships, sexual pleasure). Sexual health promotion could easily be added to digital systems which are already in use.

Digital interventions can facilitate knowledge acquisition, both in and out of clinical settings,[6] and this could be cost-saving for health services (e.g. saving time spent providing information or explaining choices). However, information alone is unlikely to change behaviour - interventions need to be interactive to promote active learning and to make content personally relevant, and need to be underpinned by behaviour change theory including specific behaviour change techniques.[7] Digital interventions can produce personally relevant material in a variety of ways, for example tailored by demographic characteristics, by risk behaviour or past experiences, or by theoretical factors such as knowledge, motivation or skills.[8-10] Imaginative interactive multi-media features are possible, for example games, stories, scenarios, simulations, virtual characters, animations, video and audio. Interactive digital interventions are effective at improving sexual health knowledge and show promising effects on sexual behaviour.[6]

At the moment in the UK, there are pockets of innovation but no national programme to roll out IDI for sexual health promotion in clinics, in schools or online. There is a profusion of websites and apps for sexual health available, but most of these are not interactive or underpinned by behaviour change theory, and the efficacy and safety of most is not known. The pace of innovation is impressive, and we need to ensure that

NHS ethics and R&D procedures can facilitate intervention development and evaluation within reasonable timescales.

Young people want IDI for sexual health, commercial companies are keen to develop digital interventions for health, and the UK government supports the idea in principle. However, there are important obstacles to putting IDI in clinic settings (e.g. technical issues, access problems, staff and management concerns), in schools (e.g. lack of compulsory SRE, teacher and parent reservations, blocks on sexual health websites) and online (e.g. lack of funding for freely-available interventions). Stronger evidence is needed on the best designs for interventions (e.g. choice of behaviour change techniques and interactive features), the best models of delivery (e.g. settings, modes of delivery, support for engagement), on barriers to implementation, and on cost-effectiveness.

Sexual health promotion via the Internet and mobile phone is a highly appropriate way to reach many at-risk populations, and digital interventions could be used to promote better quality, cost-effective sexual health care, either in conjunction with clinical services, or accessed directly by users. There is policy support in principle for deploying digital media interventions for health in the UK[11] and pockets of local innovation, but coordinated national efforts are needed to realise their potential for sexual health promotion.

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