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Evidence Brief: Peer-to-peer social media and impact on health behaviour change in teens and young adults

Key messages

- Social media can promote positive sexual and mental health behaviours among teens and young adults.

- Social media shows promise as a peer-to-peer interaction tool for teens and youth to discuss sensitive topics.

- The efficacy and safety of using social media for health promotion needs to be evaluated further.

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Issue and Research Question

Teenagers and young adults use technology extensively. A report in 2010 from the Pew Internet and American Life Project showed almost three-quarters of American teenagers (12 to 17 years old) and young adults (18 to 29 years old) use social networking websites.[1] In addition, 75% of teenagers and 93% of young adults had a cell phone.[1] From the same project, almost a third (31%) of teens reported using the internet to search for health information, and of these, 17% reported searching for health information related to drug use, sexual health or depression.[1] In young adults, almost three quarters (72%) searched for health information online.[1]

Sexual health and mental health are often sensitive topics and teenagers and young adults may be reluctant to ask physicians, peers and others for advice, due to confidentiality concerns.[2] The internet is a communication network of computers that transmits data, text and pictures all over the world where the World Wide Web houses an enormous amount of information on Web sites.[3] The online environment is a promising medium for delivering health information and services because of its potential for anonymous delivery, population reach and cost effectiveness.[4-6] Social media, a platform of online and mobile technologies that enables social interaction among groups of people that know each other or are strangers, could be further leveraged to support health promotion.[7] Some examples of social media include social networking sites (i.e., Facebook, MySpace, Google+ and Twitter), blogs, online forums, file sharing, virtual worlds (i.e., Second Life and The Sims), and wikis (online database or website that allows a community of users to edit and add content).[7] Mobile social media consists of apps or services accessed through mobile devices, enabling

users to share information, news, and other content.[7] Facebook and Twitter are examples of cross-platform social media, which exist online and on mobile devices.[7] Peer-to-peer interactivity is a key component of social media (and websites with chat rooms and message board/forums), which is present when "participants can communicate (one-to-one, one-to-many and many-to-many) both synchronously and asynchronously and participate in reciprocal message exchanges".[6] For example, the US-based Cancer Support Community website has an evaluated online support group within their online platform called *The Living Room,* (http://www.cancersupportcommunity.org) which is led by licensed mental health professionals.[8] Forums for interpersonal communication such as this offer potential benefits for health promotion especially for sensitive topics such as sexual and mental health.

This Evidence Brief asks: *What are the effects of internet/mobile-based interventions that provide a peer-to-peer platform on promoting positive behaviour change with regards to sexual and mental health among teenagers and young adults aged 14-22 years?*

Methods

In February 2015, PHO Library Services searched Medline, CINAHL, EMBASE and PsysINFO for articles published between 2000 to present. Articles retrieved by this search were assessed for eligibility by two reviewers (TO and SR). Reviews in the English language were eligible if they reported on interventions that had a social media or mobile text based platform that focused on health topics such as sexual health and/or mental health in teenagers and young adults aged 14-22 years. In addition, the interventions had to include a function that enabled peer-to-peer interaction.

Titles and abstracts, and later full text documents were screened by one PHO staff member (TO) with 20% of these also screened by a second reviewer (EB) for verification. Any

disagreements on inclusion were resolved by discussion until consensus was reached. Full text articles were retrieved and relevant information was extracted from each article by one reviewer. The full search strategy can be obtained from PHO.

Main Findings

The electronic database search identified 185 articles, from which six unique reviews met inclusion criteria. All focused on interventions that were internet-based and included a peer-to-peer interaction component. There were no eligible studies on mobile text-based interventions. All articles focused on adolescents and/or young adults from around the world unless otherwise stated. Of the six included reviews, two focused on sexual health and four on mental health. Outcomes included descriptive data on website content, usefulness and/or interest of sexual/mental health websites and/or using social media platforms, change in knowledge, and treating/changing un-healthy mental/sexual behaviour.

Social Media and Sexual Health

The review by Noar et al., 2006 examined 21 web sites that promoted safer sexual behaviour to teenagers and/or young adults. They found that websites varied in the number of interactive components ranging from 2 to 8 features.[6] The peer-to-peer interactive feature appearing most often on these websites was message boards (48%). The efficacy of the interactive features was not examined.

The systematic review by Hamm et al., (2014) examined how social media (i.e., blogs, twitter, YouTube, Facebook, social networking sites (SNS) and virtual worlds) interventions were being used with respect to child health.[9] Out of the 25 included studies, four studies focused on promotion of safer sex knowledge and behaviour in youth/adolescents (age range 13 to 24 years old).[9] Discussion boards/forums (mostly on Facebook) were the most common peer-to-peer interactive feature in the sexual health interventions.[9] Results from these four studies were positive in terms of disseminating

useful information on sexual health; however, only one study reported statistically significant results for increased health knowledge of reproduction but did not have a strong influence on changing attitudes and behaviour on sexual health.[9]

Social Media and Mental Health

A systematic review by Rice and colleagues, (2014) evaluated online and social networking interventions for prevention of depression and/or treatment of symptoms of depression among teens or young adults (ages 12-25 years).[5]

Nine separate online interventions in a form of a module style web page were evaluated using a randomized control trial design for preventing and/or treating depression.[5] All interventions used a cognitive behavioral treatment approach where the online component was open access (not restricted) or referred (participants need a password).[5] Three interventions were delivered in a classroom setting (with supervision from a classroom teacher/tutor), while the rest of the interventions were fully automated in which participants could direct themselves through the intervention. Four interventions provided motivational or safety phone calls where two of these interventions were moderated. Only one of the two moderated interventions contained a peer-to-peer contact component in a form of secured online chat room sessions, which were moderated by one or two trained professionals.[5] Overall, online interventions that focused on participants at risk of depression or with clinically diagnosed depression showed efficacy over comparisons groups (i.e., waitlist control, attention placebo, and not receiving motivational interviewing).[5] An older review analyzing the same interventions (except one program called BRAVE) found similar results.[4] Even though these interventions provide early support for the efficacy of internet based interventions for preventing or treating symptoms of depression, it is unclear how much was attributed to peer-to-peer interaction considering only one intervention had a peer-to-peer component.

Twenty-two studies focused on the use of social networking (having online user-to-user contact) by younger people (25 years or younger) and its effect on depression symptoms. Sixteen studies used SNS, four used online support groups (OSG), one was a general commentary and one was a combined study of SNS and OSG.[5] Use of SNS (i.e., sites with a non-specific user purpose) showed inconsistent results on depression.[5] Interactive SNS with direct one-to-one synchronous communication was associated with greater well-being and the alleviation of depression symptoms compared to passive SNS.[5] Socialization, self-esteem, communication, facilitation of supportive relationships, sense of belonging and learning were also positively associated with using SNS and had potential as a screening tool for at-risk individuals. However, negative interactions using SNS were associated with greater depression, in which there were reported risks of cyber bullying, harassment, "sexting" (sending and receiving sexually explicit messages), and privacy concerns.[5]

Studies assessing use of OSG (i.e., sites with a specific purpose of seeking and sharing mental health-related information and related personal experiences through asynchronous communication such as blogs) have shown mixed effects on symptoms of depression. Use of OSG may be a supplement to formal in-person care for coping with symptoms of depression.[5] Potential disadvantages of OSG are exacerbation of symptoms and excessive reliance on online support.[5]

A review by Siemer, Fogel and Voorhees, (2011) examined 15 online programs (age range 12-25 years) which included four broad mental health promotion interventions with peer-to-peer forums. These forums allowed participants to ask questions and share stories and coping strategies with each other.[10] These forums contribute to building resiliency and seeking professional help in children and youth.[10]

Another review by Reavley and Jorm, (2010) identified 11 interventions for preventing

depression and anxiety where only one of the interventions contained an online support group component. The online support group intervention was a randomized control trial (RCT) that evaluated the effectiveness of online support groups as an addition to a website (with information about student problems) for college students' with psychological problems. There were improvements in subjective well-being and symptoms but not significantly different compared to the control of only using the website.[11]

Discussion and Conclusions

Social media has potential for promoting positive sexual and mental health behaviours among teens and young adults. For example, there is evidence of a reduction in depression and anxiety symptoms. However, it is difficult to isolate the effect of peer-to-peer interaction, especially when most online interventions do not contain a peer-to-peer component. A recent review (outside the range of the search strategy) specifically analyzed online peer-to-peer interventions (two focused on depression and anxiety and one on general psychological problems) and found mixed results on reducing symptoms of depression.[12] A few authors noted a general lack of well-designed studies in this area. Most reviews on sexual and mental health rated their included studies as poor to moderate quality, with significant heterogeneity in research designs, target populations and types of intervention. There is a need for more research on interventions that isolate the effectiveness of peer-to-peer support for promoting healthy sexual and mental behaviour. While the evidence is limited, social media has clear benefits. An internet-based platform is relatively low cost and has higher potential reach compared to traditional face-to-face interventions. [4,6,10] Therefore it is worthwhile to further investigate effectiveness in the emerging research area of social media interventions.

Implications for Practice

Social media shows promise as a peer-to-peer interaction platform for discussing sensitive topics like sexual and mental health. Based on statistics related to how teenagers and young adults use the internet, there is a clear demand for health information and a need to discuss sensitive issues confidentially. Evidence is needed on the effectiveness of online connectivity and its uses, therefore, more well-conducted experimental designs with a focus on peer-to-peer interaction are necessary.[9] For example, an intervention could compare a basic website intervention to a website with an added peer-to-peer interaction such as a chat room, and finally, with a control group of usual care such as face-to-face consultation with a professional or over the telephone. There also should be further comparisons between different online formats such as, bulletin boards, message forums and chat room advice sites that are solely peer-driven, moderated by a health professional, or peer-generated questions that are answered only by professionals.[2] An advantage of this design is the possibility of examining the medical accuracy of online health advice from teens and young adults.[2] Whether or not SNS or bulletin boards are better at facilitating sexual and mental health information and discussions has yet to be determined.

Despite reported advantages to using social media for health promotion and well-being interventions, their mode of delivery presents extra considerations in terms of risks to unmonitored suicidal thoughts or symptom deterioration that can lead to serious consequences.[5] Therefore it is important for future research to assess the efficacy and safety of using social media for health promotion, and have protocols in place to manage the groups, and provide information on where and how to connect with health professionals and support services if necessary.

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Specifications and Limitations

This Evidence Brief presents key findings from the scientific literature. Its purpose is to investigate a research question in a timely manner in order to help inform decision making. This report is not a comprehensive review of the literature, but rather a rapid assessment of the best available research evidence. There may be relevant pieces of evidence that are not included and these may alter the conclusions drawn from the document.

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