The Impact of Health Education Transmitted Via Social Media or Text Messaging on Adolescent and Young Adult Risky Sexual Behavior: A Systematic Review of the Literature

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Abstract: Despite the increased use of social media and text messaging among adolescents, it is unclear how effective education transmitted via these mechanisms is for reducing sexual risk behavior. Accordingly, we conducted a systematic review of the literature to examine the effectiveness of social media and text messaging interventions designed to increase sexually transmitted disease (STD) knowledge, increase screening/testing, decrease risky sexual behaviors, and reduce the incidence of STDs among young adults aged 15 through 24 years. Eleven studies met our inclusion criteria. Most of the included studies used a control group to explore intervention effects and included both young men and women. Sample sizes ranged from 32 to 7606 participants, and follow-up periods ranged between 4 weeks and 12 months. These studies provide preliminary evidence indicating that social media and text messaging can increase knowledge regarding the prevention of STDs. These interventions may also affect behavior, such as screening/testing for STDs, sexual risk behaviors, and STD acquisition, but the evidence for effect is weak. Many of these studies had several limitations that future research should address, including a reliance on self-reported data, small sample sizes, poor retention, low generalizability, and low analytic rigor. Additional research is needed to determine the most effective and engaging approaches for young men and women.

Sexually transmitted diseases (STDs) are a prevalent and preventable health concern among adolescents and young adults in the United States. Nationally, 19 million new STDs infections are reported annually.[1] Individuals aged 15 to 24 years account for nearly half (48%) of all reported STDs in the United States, despite representing only 25% of all sexually active individuals.[2] According to the 2009 Youth Risk Behavioral Surveillance Survey conducted by the US Centers for Disease Control and Prevention, 46% of high school students have had sexual intercourse and 39% of sexually active students reported not having used a condom during their last sexual intercourse experience.[3] According to the American College Health Association,[4] 67% of college students reported having sexual intercourse (oral, vaginal, and or anal) within the last 12 months. Of the students that reported sexual activity within the last 30 days, only 54% of those having vaginal intercourse reported that they "mostly or always" use a protective barrier.[4]

Social media including Facebook, Twitter, YouTube, and MySpace has become a popular option for interventions targeting adolescents. These Internet-based applications are quickly replacing traditional forms of media communication and offer individual users rapid transference of ideas and opinions through a relatively low-cost and user-friendly network.[5] Social media has been defined as "forms of electronic communication …through which users create online communities to share information, ideas, personal messages, and other content."[6] The Centers for Disease Control and Prevention uses a variety of social media tools to provide credible, science-based health information to reach the new audiences. Some of these tools include blogs, e-mail updates, mobile communication, Facebook, pod casts, Really Simple Syndication feeds, Twitter, and multiple applications to download to mobile devices.[7] An estimated 80% of teens report using social networking sites like Facebook.[8,9] In fact, more than two-thirds of all Facebook users are aged 13 to 25 years.[10] In a national study of social media use among respondents aged 14 to 24 years, personal recommendations were more powerful than agency-based advertising to encourage friends to participate in health promoting behaviors.[11] Other studies confirm adolescents' acceptance of social media as a way of receiving health information; Atkinson et al.[12] found that 59% of adolescents reported seeking heath information online, and Lenhart et al.[13] found that 31% of teens reported obtaining health information online and that 17% of teens used the Internet to look up information on sensitive health topics.

Short message service (SMS) or text messaging is another popular form of communication among young adults that has the potential for effectively reducing sexual risk behaviors. Text messaging is defined as a form of communication transmitted among mobile phones on a bandwidth lower than that of a phone call and is usually 160 characters or less. Text messaging is widely available, inexpensive, and immediate.[14] Because text messaging is silent communication, it is more discreet than a phone conversation. It is often less time consuming than making a phone call or sending an e-mail, and like e-mail, can be used to send a message to a large number of people at one time.[15] According to the Pew Internet and American Life Project, 9 in 10 young adults own a cell phone and 85% of all 18- to 29-year-olds use text messaging.[16] Young adults aged 18–24 years exchange approximately 1630 texts per month, and nonvoice data applications have grown significantly in recent years, indicating that people are using their phones for more than just talking.[16,17]

Despite the increased use of social media and texting among adolescents and young adults, it is unclear how effective education transmitted via social media is for reducing sexual risk

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behavior. Accordingly, we conducted a systematic review of the literature to examine the effectiveness of social media and text messaging interventions designed to increase sexual health knowledge, increase screening/testing, decrease sexual risk behaviors, and decrease STD acquisition among young adults aged 15 through 24 years.

METHODS

The authors conducted a systematic search of the literature using the following databases: Cinahl, PubMed, Cochrane Library, MEDLINE, and PsycINFO. Key words included combinations of the following terms: (Facebook, "social media," Internet, networking, Eeb, or text) and ("young adult," adolescen*, or teen) and "sexual health," STD, "sexually transmitted disease," "sexual risk," pregnancy, or sex) and intervention. Although other technologies exist for reaching this population, we chose to focus our review on the 2 technologies most commonly used for communication by our target population: social media and text messaging. We consider social media to be electronic forms of communication designed for the purpose of sharing information and other content.[6] Studies were reviewed to determine if they met the following inclusion criteria: (1) adolescent or young adult study population, defined as having a mean or median age less than 25 years, (2) test of an intervention (with or without a control group), (3) intervention delivered via social media or text messages, and (4) STD-related outcomes, including knowledge, screening/testing, and acquisition, and sexual risk behavior, including sexual initiation, number of sexual partners, unintended pregnancy, condom use, and unprotected sex. Studies were included only if they were published in English, published in peer-reviewed journals, and reported original research. Title and abstracts were reviewed first to determine if studies met the inclusion criteria. Full-text articles were then retrieved and reviewed. References of the included articles were also reviewed for inclusion.

RESULTS

Eleven studies met our inclusion criteria.[18–28] Most included studies used a randomized controlled trial design. Ages of participants ranged from 13 through 29 years. Seven studies included both young men and women; of the remaining 4 studies, 3 included only young women[21,26,28] and 1 included only young men.[23] Sample sizes ranged from 32 to 7606 participants, and follow-up periods ranged between 4 weeks and 12 months. Text messaging interventions sent between 3 texts per week to 1 text every 3 to 4 weeks. Intervention content was primarily focused on providing reminders and education about safe sexual behaviors. Settings for recruitment included clinics and health centers, high schools, universities, and an open-air music festival (Table 1).

STD Knowledge

Seven studies examined the effectiveness of social media or texting interventions on STD knowledge.[19–21,23–26] Intervention modes included SMS messaging via text, e-mail communications, and Internet-based health education programming. All studies demonstrated significant increases in STD knowledge, including increased understanding of sexual protection methods and transmission.

STD Screening/Testing

Only 3 studies examined STD testing.[19,20,24] Although all 3 studies used text messaging, only 2 found self-reported increases in STD testing among participants after the intervention.[20,24] Lim et al.[24] found a 2.5 increase in odds of reporting an STD among participants in the intervention group compared with the control group (odds ratio, 2.51; 95% confidence interval, 1.11–5.69), and Gold et al.[20] found 28% and 25% increases in odds of STD testing among both male and female participants, respectively, in the intervention group compared with the control group ($P < 0.05$). In the third study, STD testing within the last 6 months was not significantly higher among the safe sex text messaging group compared with the control group.[20]

Sexual Risk Behavior

Sexual risk behaviors were examined in 10 studies.[18–20,22–28] Outcomes of interest included condom use and number of sexual partners, including multiple, casual, and new sexual partners. We also considered self-efficacy and intention to engage in risky behaviors. Intervention modes included SMS messaging via text, e-mail communication, Internet-based health education programming, and 2 Facebook sites.

Condom Use. Six studies examined intervention effects on condom use: 2 studies demonstrated significant effects, 2 others demonstrated no significant effects, and the final 2 demonstrated mixed effects. Suffoletto et al.[28] (text messaging intervention) and Bull et al.[18] (Facebook intervention) reported significant increases in condom use at last sex. Suffoletto and colleagues also found increases in the consistency of condom use in past month, and Bull et al. reported an increase the proportion of sex acts protected by condoms. These effects were reported immediately after the end of the intervention; the effects of the Facebook intervention, however, did not persist at the 6-month follow-up. On the other hand, in a12-week feasibility clinical trial using text messaging to deliver sexual health information to 60 young men, Juzang et al.[23] found no significant differences in the number of sexual acts protected by condoms. Similarly, Lim et al.[24] reported no significant differences in condom use with risky partners between the intervention group, who had received sexual health promotion messages via text and e-mail, and the control group. Gold et al. reported greater frequencies of always using condoms with casual partners among the intervention group compared with the control group but found smaller frequencies of always using condoms with new partners. These effects were consistent for both males and females.[20] Gold et al.[19] found higher frequencies of condom use with new partners among participants in the intervention group compared with those in the control group, but no effect for always using a condom or for always using a condom among participants with multiple sex partners.

Sexual Partners. Three studies examined intervention effects on sexual partners with mixed effects. One study reported fewer numbers of sex partners among participants in the intervention group compared with the control group at 4 months after the intervention.[25] Another study reported decreases in the proportion of participants reporting multiple or new sexual partners among participants in the intervention group compared with controls, but no effect on any sexual partners in the past 6 months.[19] The third study[20] reported a decrease in the proportion of participants in the intervention group reporting casual or new sexual partners. Furthermore, males in the intervention group were less likely to report having multiple sex partners, but females in the intervention group were more likely to report having multiple sex partners compared with females in the control group.[20]

Self-Efficacy/Intention. Four studies included in our review additionally examined participant self-efficacy and/or intentions.[22,23,26,27] Danielson et al.[26] and Markham et al.[27] reported significant increases in condom use self-efficacy and intention, whereas Markham et al. additionally found an increase in participants self-efficacy for delaying engagement in risky sexual encounters. Jones et al.[22] reported an increase in intentions to use condoms (23%) among participants. Juzang et al.,[23] however,

TABLE 1. Research Using Social Media and Text Messaging to Provide Sexual Health Education

Author/Date	Study Design	Sample Population	Intervention*	Control	Findings†	Limitations
Bull et al.[18]/2012	Cluster randomized control trial Follow-up: 2 and 6 mo	N = 1578 16–25 y 14% Latino 35% African American from communities around Denver, CO, and a Louisiana community college	Format: Facebook site Content: Education regarding sexual history communication, healthy relationships, condom negotiation skills, condom use, and accessing STI testing Duration: 8 wk; 1 topic per week	Format: Facebook site Content: News events pertinent to population (no sexual health information included) Duration: 8 wk; 1 topic per week	*Behavior* - ↑ Condom use at last sex at 2-mo follow-up ($P = 0.04$) - ↑ Proportion of sex acts protected by condoms at 2-mo follow-up ($P = 0.03$) - No significant effects at 6-mo follow-up	-High attrition: 55% of intervention group and 41% of control group lost to follow-up at 6 months; more likely to lose higher risk youth
Danielson et al.[26]/2013	Pretest/Posttest design	N = 41 African American girls aged 13–18 y	Format: 4 Web-based sessions, lasting 1-h each Content: STI/HIV prevention Duration: 30 d	None	*Knowledge* - ↑ Sexual health knowledge ($P < 0.01$) *Behavior* - ↑ Condom use self-efficacy ($P = 0.03$)	-No comparison group
Gold et al.[19]/2011	Randomized control trial Follow-up: 4 mo	N = 7606 Subscribers of cell phone advertising service 16–29 y old in Australia	Format: 8 text messages; 1 sent to participants every 2 wk Content: safe sex messages, specifically targeting STI knowledge, protection, attitudes and perceived behavioral control Duration: 4 mo	Format: 8 text messages; 1 sent to participants every 2 wk Content: messages on sun safety prevention and consequences of exposures Duration: 4 mo	*Knowledge* - ↑ Sexual health knowledge ($P = 0.02$) *Screening/Testing* - No effect on proportion-seeking testing for STDs ($P = 0.90$) *Behavior* - ↑ Always using a condom with new partners ($P = 0.03$) - ↓ Multiple sex partners ($P = 0.03$) - ↓ New sex partners ($P = 0.03$) - No effect on number of sexual partners, always using a condom, or always using a condom if have multiple sex partners (all $P > 0.05$)	-High attrition: 90% lost to follow-up -Reported findings included only comparisons of follow-up surveys between the 2 groups and were not adjusted for possible baseline differences. -Only 151 completed both the baseline and follow-up surveys; these adjusted results were not significant for any outcome (all $P > 0.05$)

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TABLE 1. *(Continued)*

Author/Date	Study Design	Sample Population	Intervention*	Control	Findings†	Limitations
Gold et al.[20]/2011	Pretest/Posttest design Follow-up: 4 mo	N = 1771 Participants 16 to 29 y old (median age=22) attending a musical festival in Australia	Format: 12 text messages; 1 sent to participants every 2 wk Content: Information about STIs (e.g., asymptomatic nature, urine testing, health consequences) and condom use Duration:4 mo	None	*Knowledge* - ↑ Sexual health knowledge among males and females ($P < 0.01$) *Screening/Testing* - ↑ STD testing among males ($P = 0.02$) and females ($P < 0.01$) *Behavior* - ↑ Always using condoms with casual partners among males ($P < 0.01$) and females ($P = 0.05$) - ↓ Always using condoms with new partners among males ($P < 0.01$) and females ($P = 0.02$) - ↓ Multiple partners among males ($P = 0.02$) - ↑ Multiple partners ($P < 0.01$) among females - ↓ Casual partners and new partners among males ($P < 0.01$) and females ($P < 0.01$)	-Only 27% of eligible participants who completed a baseline survey also \completed the follow-up survey
Huang and Hung[21] 2009	Quasi-experimental study Follow-up: 2 and 4 wk postintervention	N = 189 Female students (mean age, 20 y) enrolled at 2 universities in Kaohsiung City, Taiwan	Format: Internet-based health education program Content: education about the definition, prevention, risk, transmission, and health effects of hepatitis B Duration: 4 wk	No education	*Knowledge* - ↑ Hepatitis B knowledge at 2 and 4 wk postintervention ($P < 0.01$) - No effect on hepatitis B cognition at 2 wk ($P = 0.25$) or at 4 wk ($P = 0.08$)	-Website content could have been more interactive/engaging
Jones et al.[22]/2012	Posttest Follow-up: 21 mo	N = 70 Participants aged 15–24 y who visited a specific Facebook site in a Midwestern US state	Format: Facebook site Content: STD health content (e.g., reasons youth engage in sexual risky behavior; signs, symptoms, and complications of chlamydia infection) Duration: 21 mo	None	*Behavior* - ↑ Intentions to use condoms *Acquisition* - ↓ Chlamydia cases among young adults within a local health district in 2010 compared with 2008 (54%)	-Long time between when the Facebook site was launched (2009) and when the questionnaire was available (September 2010) -Questions measuring behaviors before and after viewing the Facebook site were asked at the same time -No control group

Juzang et al.[23]/2011	Feasibility study Follow-up: 3 and 6 mo	N = 60 Male participants who were black, sexually active, owned cell phones between 16 and 20 y old, recruited from community-based organizations in Philadelphia, PA	Format: 3 text messages sent weekly Content: sexual health, focused on increasing condom use and reducing number of sexual partners to specifically reduce incidence of HIV Duration: 12 wk	Format: 3 text messages sent weekly Content: nutrition Duration: 12-wk period	*Knowledge* - ↑Awareness of sexual health at 3 and 6 mo postintervention (*P* values not disclosed) *Behavior* - No significant effect on proportion of protected sexual acts - No significant change in condom intentions	-Low statistical power -Non-randomized study design
Lim et al.[24]/2011	Randomized controlled trial Follow-up: 3, 6, and 12 mo	N = 994 Participants 16–29 y old (median age, 19 y) attending a musical festival in Australia	Format: 14 text messages (1 sent every 3–4 wk) and 8 e-mail messages (1 sent approximately every 6 wk) Content: Sexual health promotion messages with advice or information about STI or safe sex Duration: 12 mo	No education	*Knowledge* - ↑STD knowledge among the intervention group at 12 mo among males and females ($P < 0.05$) *Screening/Testing* - ↑ STD testing among females but not among males at 12 mo ($P < 0.05$) *Behavior* - No significant effect on condom use with risky partners ($P > 0.05$)	-High attrition: 39% lost to follow-up
Markham et al.[27]/2014	Feasibility study	N = 32 HIV-positive youth 13–24 y old recruited from 2 locations in a Southeastern US city	Format: Web-based, sexual risk reduction intervention for HIV-positive youth Content: Sexual engagement, negotiation, communication, condom/birth control use Duration: 1 d	None	*Behavior* - ↑Condom use self-efficacy ($P < 0.01$) - ↑ Abstinence self-efficacy ($P = 0.07$)	-Low statistical power -Long-term psychosocial and behavioral outcomes were not assessed (same day pre/post testing)
Roberto et al.[25]/2007	Randomized controlled trial	N = 326 10th graders enrolled at 2 rural Appalachian schools	Format: 6 evidence-based online activities Content: STD/HIV knowledge, prevention, health relationships, and condom negotiation Duration: 7 wk	No education	*Knowledge* - ↑ Sexual health knowledge ($P < 0.01$) *Behavior* - ↓Number of sexual partners ($P < 0.06$)	-Potential limited generalizability
Suffoletto et al.[28]/2013	Randomized control trial No intervention Follow-up: 3 mo	N = 52 *Behavior* Female patients 18–25 y old with hazardous drinking behavior and recent risky sexual encounters recruited from an urban ED	Format: weekly text messages (SMS) Content: messages assessed risky encounters, provided personalized feedback on risk behavior, prompted subject to set weekly risk behavior goal - Low statistical power Duration:12 wk		- ↑ Condom use at last sex ($P < 0.01$) - ↑Consistent condom use over the past 28 d ($P < 0.01$)	-High attrition rate (56% completed 3 month follow-up assessments)

*All STDs were targeted by interventions unless otherwise noted.
†Findings describe the use of social media/text messaging and differences within the intervention group compared with the control group where applicable.
STI indicates sexually transmitted infection.

reported no significant effects on intentions to use condoms among young men aged 16 to 20 years in Philadelphia.

STD Acquisition

Only one study explored the STD acquisition.[22] This study found fewer chlamydia cases among 15- to 17-year-olds reported by the local health district after the Facebook intervention compared with before the intervention. In addition, no participants reported an STD diagnosis after the intervention compared with 5 participants who reported having been diagnosed with an STD before the intervention.[22]

DISCUSSION

Our review of the literature suggests that social media and text messaging may be promising approaches for effectively increasing STD knowledge among both young men and women. These effects were seen across interventions using a variety of approaches up to 12 months after the intervention. Results, however, were mixed with respect to the effectiveness of social media and text messaging for reducing sexual risk behaviors and increasing STD screening and testing. Studies included in our review demonstrate that social media and text messaging may be effective, but additional research is needed to explore inconsistencies in results and to determine the most effective and efficient approaches for STD risk reduction.

Findings from reviewed studies support the consistent and enduring impact of social media and text messaging interventions on increasing STD knowledge.[19–21,23–26] We do not have sufficient evidence to conclude differences in effectiveness by intervention approach as both types of interventions demonstrate significant effects for improving knowledge related to sexual health and STDs. These effects were observed immediately after the intervention and up to 1 year later. It seems, therefore, that multiple approaches and intervention doses are sufficient to significantly increase knowledge among adolescents and young adults.

Studies included in our review indicate that social media and text messaging may be effective for reducing sexual risk behaviors and STD screening and testing, but additional research is needed to explore inconsistencies in results. For example, there were no significant changes in proportion of sex acts protected by condoms in 2 studies,[23,24] whereas other studies indicated that participants were more likely to report "always" using condoms with new partners.[19,20] Furthermore, Gold et al.[20] reported lower frequencies of male participants reporting having multiple partners in the intervention group compared with controls, but significantly higher frequencies of female participants reporting having multiple partners. Additional inconsistencies were seen in studies examining the effectiveness of interventions to increase STD testing. In one study, STD testing within the last 6 months was not significantly higher among participants in the intervention group compared with participants in the comparison group,[19] but in another study, STD testing was higher among participants enrolled in the intervention group after 12 months.[20] These inconsistencies indicate the need for additional research investigating these effects.

Our studies suggest possible differential effects between sexes, which could help explain inconsistencies in results. For instance, in one study, STD testing was significantly higher in the intervention group compared with the control group among females but not among males.[24] Furthermore, the one study that focused exclusively on young boys found no significant effect on condom use, but another study that focused exclusively on young girls found significant increases in condom use. Future research should therefore examine sex as a moderator of intervention effectiveness.

These interventions suggest that behaviors may be more difficult than knowledge to impact via social media and text messaging. Thus, future research should consider using multiple and additional methods to affect behavior, including role playing, interactive videos, and 2-way communication to build the skills needed to achieve positive behavioral changes that may not be accomplished through formalized directive education alone. Opportunities to view, simulate, or engage in healthy relationship discussions including engagement in sexual encounters and condom negotiation have the potential to positively influence sexual risk behavior.[18,22]

Overall, these studies were limited in the several ways. The primary limitation encountered in the literature was a reliance on participant self-reported data,, which may negatively affect the validity of responses and the findings. Social desirability bias, or reporting responses perceived as potentially more socially acceptable, may have substantially affected these results and biased these results away from the null. This bias may have resulted in significant findings, when in fact, no association exists. Furthermore, because blinding participants to the condition is difficult in these studies, social desirability bias may be of a greater concern, potentially biasing results away from the null. Although self-reported data are common among studies measuring sexual risk behavior, additional studies with more biologically confirmed outcomes, such as STD diagnoses, are needed.

Furthermore, 4 of the 11 studies lacked comparison groups.[20,22,26,27] These studies, therefore, do not have the ability to determine whether or not observed changes were due to the intervention or simply due to other contextual factors. Additional research should include comparison groups to improve upon these initial study designs. It should also be noted that most studies did not discriminate among targeted STDs. Future studies should include additional measures to understand differences in effectiveness specific to HIV and other targeted STDs.

Additional limitations include small sample size,[22,23,26–28] participant attrition,[18–20,24,28] participation bias,[19,20] and limited range of geographic location, which limits the generalizability of study findings. Participant attrition may be a substantial concern because it may have resulted again, in significant findings, when in fact no such relationships exist. Future studies should also include plans for improving retention and message boosting to encourage maintenance of behavioral changes among the target population and must also be cautious to avoid contamination of messages between interventional and control groups,[19] to ensure the accuracy of all findings.

Given these limitations, we make the following additional recommendations for future research. First, we recommend that social media or text messaging interventions should use key educational content included in these studies, such as information on STD transmission, condom negotiation skills, and where to access STD testing. Second, social media interventions must be targeted to venues most frequented by young adults and adolescents and the provided content must be visually appealing, interactive, and engaging.[18,22] Third, we recommend that future research compare the effectiveness of intervention dosing. Considerations should be given to maximizing participant engagement while minimizing participant burden to reduce attrition rates. Among social media interventions, engagement may be maintained with updates posted to Facebook[18,22] or participant involvement in online activities to deliver sexual health content.[21,25–27] The text messaging interventions varied widely in frequency of SMS content, and no patterns of effectiveness were found based on the intervention dose. For instance, Lim et al.[24] disseminated messaging once every 3 to 4 weeks, whereas Juzang et al.[23] provided messaging 3 times a week. Future studies are needed to explore the effects of variability of text messaging frequency on positive behavioral

change among this population. Last, we recommend frequent boosting of information after initial intervention strategies to enhance the durability of effects. In our reviewed studies, follow-up comparisons demonstrating significant results ranged from the same day to 21 months; however, studies that followed these effects over time reported decreased effects over time.[18,24]

Although these studies provide preliminary support for the use of social media and text messaging as effective intervention toward positive behavioral change in targeted populations, caution must be taken to avoid undue risk of harm to participants. Chilvers[29] explored the potential implications for school nurses in developing an educational intervention for students using the social media site Facebook. Potential concerns included the following: privacy protections for all participants, protecting content on the site from participants who might post of inappropriate content, assuring patient confidentiality, keeping records of student contact for future follow-up, and assuring students are competent to consent to online discussions with school nurse. The author recommends professionals seeking to establish social media sites as an educational intervention should consider these potential risks before site development and implementation. In a qualitative study of adolescent perceptions regarding the use of text messaging to address risky sexual behaviors, although most participants welcomed this intervention, "some stated that other teens might have more reservations about receiving sexual health text messages because of privacy concerns, lack of interest, or discomfort with the topics."[30(p224)] Furthermore, social media communications are in continuous flux, and therefore, developers of interventions using these forms of media need to be constantly attuned to the most frequented venues used by their target population to assure the greatest possibility of success in these measures.

CONCLUSIONS

Social media and text messaging have the potential to reach hundreds, thousands, and even millions of users. Evidence from this systematic review of literature provides significant information and guidance for health care professionals in describing the impact that social media and text messaging has on the prevention of STDs among adolescents and young adults. Included studies provide preliminary evidence demonstrating the promise of social media and text messaging for increasing sexual health and STD knowledge. Social media and text messaging may also be effective approaches for decreasing sexual risk behaviors, increasing STD screening and testing, and reducing STD acquisition, but evidence for its effectiveness is currently weak. Many of these studies had several limitations, including a reliance on self-reported data, small sample sizes, low rates of retention, and low analytic rigor. Additional research is needed to determine the most effective and engaging approaches using social media and text messaging for young men and women.

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