

Review

The Effects of Social Media on Adolescent Mental Health

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ABSTRACT

There is increasing concern regarding the impact of social media on adolescent mental health, yet medical providers have limited guidance on how to effectively screen their adolescent patients. Research has suggested a negative association between excessive time on digital media, more than 2-hours per day, and emotional health. Perhaps more importantly, adolescent vulnerabilities, such as existing anxiety or depression, when exposed to certain social media experiences can cause further decline of mental health. The goal of this review is to help providers effectively evaluate social media use in adolescent patients and provide guidance on its use to help preserve or improve their emotional well-being.

Keywords

Mental health; Adolescents; Digital media; Emotional well-being.

INTRODUCTION

Adolescent depression, anxiety, self-harm and suicide between the ages of 12-17-years has increased exponentially in the past 10-years. The bulk of research points to digital media use as a factor in decreased adolescent mental health,¹⁻⁴ with some research highlighting social media use specifically.⁵⁻¹³ The link between time spent on digital media and decreased adolescent mental health is controversial, as the effect is not linear. However, most research on social media use and individual adolescent vulnerabilities has linked unhealthy use to decreased emotional well-being. Medical providers have a unique opportunity to assess adolescents for unhealthy social media use and provide recommendations, thereby improving mental health and saving lives.

STATISTICS

The World Health Organization (WHO) reported suicide as the fourth leading cause of death globally for people ages 15-29-years in 2020.¹⁴ Suicides in adolescents aged 10-14-years increased 124% in males and 191% in females in the eight-years after 2010 (Figure 1).

Additionally, suicide mortality of those aged 15-19-years increased 31% in males and 113% in females from 2007 to 2015.¹⁴ Hospital admissions for female non-fatal self-harm increased 62% in aged 15-19-years and 189% in aged 10-14-years in the eight-years after 2009 (Figure 2).

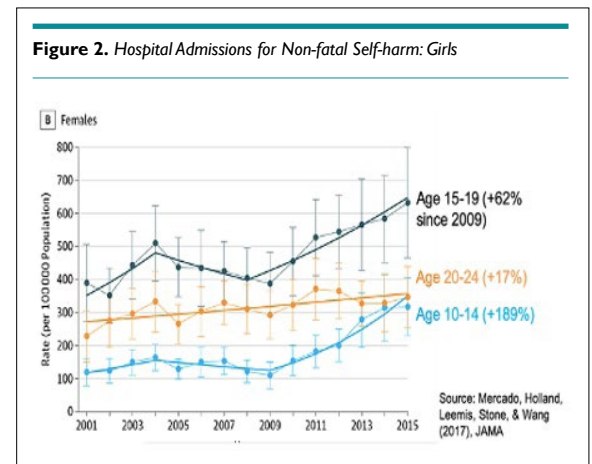
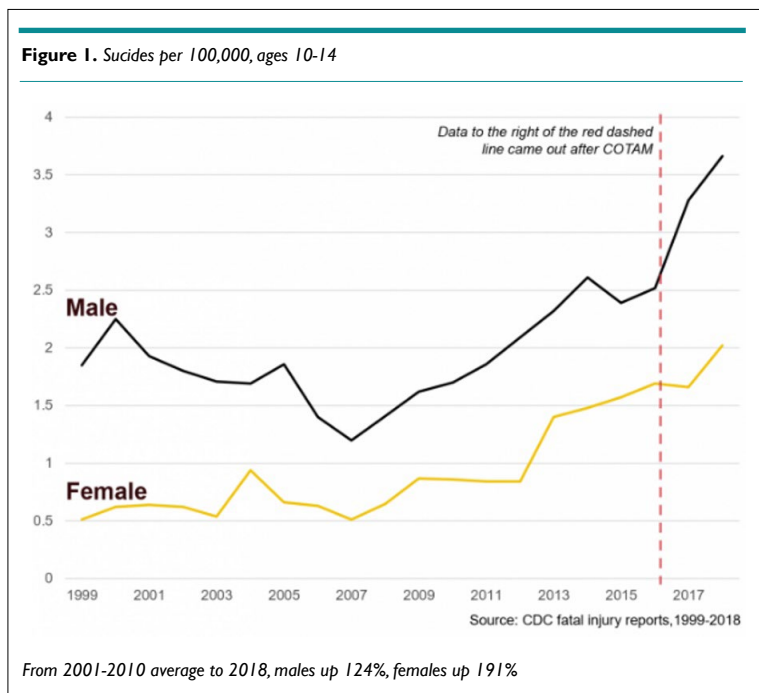
Depression was reported by WHO as the fourth leading cause of illness and disability in those aged 15-19 worldwide in 2020. For adolescents aged 10-14-years, anxiety was the sixth leading cause of illness and disability in that same year.

SUICIDE

It is difficult to assign exact cause to the troubling trends of increasing depression, anxiety, self-harm and suicide in adolescents. However, with suicide being the fourth leading cause of death globally in people aged 15-25-years, it is important to discover what factors are influencing adolescents to commit suicide.^{14,15}

One systematic review of 46 studies, involving 192,950 participants, concluded a direct relationship between internet use, self-harm and suicidal behavior. These effects were particularly noted on websites with self-harm or suicide content, and in adolescents with internet addiction or high-levels of internet use. Notably, moderate to high-levels of internet use, defined as 2 to 5 hours of interaction, were associated with suicidal ideation.¹

Cybervictimization tends to occur around 14-years of age as children spend more time on mobile phones and social networking sites.¹⁶ The specific experience of being a victim of cyberbullying is associated with more suicidal thoughts and self-injurious behavior.^{8,16,17} In fact, suicidal ideation, moderate to severe depression and post-traumatic stress disorder are more



prevalent among those reporting cyberbullying at any point.¹⁸

Therefore, screening for high-levels of internet use, addiction, and exposure to cyberbullying experiences, can alert caregivers to the potential for significant emotional distress and suicidal ideation in adolescents.

DIGITAL MEDIA

Historically, digital media's effect on mental health has been researched collecting data on computer use, mobile device use and video gaming as one category. In addition, the distinct effects of internet browsing, entertainment viewing or engagement in social activities online were not studied separately. Research performed with the assumption that all digital media interactions affect adolescent mental health equally has produced conflicting recommendations for its use.

For example, the amount of time adolescents spend on digital media has been the subject of debates among the scientific community for many years, with some authors reporting negative effects²⁻⁴ and others concluding minimal¹⁹⁻²² or mixed (positive and negative) effects on adolescent mental health.^{1,23} Twenge et al²⁴ noted a negative correlation between time spent on digital media and adolescent mental health in a cross-sectional study of 221,096 adolescent surveys between the years of 2009 and 2016.^{3,4} The results of this study suggest that as more time is spent on digital media, an adolescent's mental health declines. Alternatively, using the same cross-sectional data, Przybylski et al²² found minimal association between digital media use and adolescent well-being, suggesting a lack of evidence for policy change or recommendations for limiting its use.^{21,22} Differences in analytic strategy and interpretation of results likely led the two groups to opposite conclusions on the same set of data.^{11,12}

Cross-sectional studies do not lend themselves to cause and effect analysis, just association. Therefore, it becomes difficult to determine if time spent on digital media has a detrimental effect on mental health or if poor mental health is predisposing adolescents to higher-levels of digital media use.^{3-5,10,21} These cross-sectional studies evaluated general digital media use and did not consider the individual vulnerabilities of users while utilizing digital media. Research looking specifically at social media has provided more consistent conclusions and can be used more reliably in conversations between providers and their adolescent patients.

SOCIAL MEDIA

Social media is a form of digital media in which users communicate and interact electronically. The more recognized platforms include Facebook, Instagram, TikTok, SnapChat, YouTube, LinkedIn, and Twitter. Email and texts are considered by some to be included in this category, especially when communicating in groups. Social media platforms were available on mobile devices in 2009 with widespread adoption within a few years. In 2015, adolescents reported spending almost 7-hours using digital media and sending an average of 67 text messages on average per day.⁹ By 2017, adolescents reported spending 2-3-hours per day on social media alone.¹³ More recent studies suggest that current use is even higher than previously reported.^{7,9} However, validation in longitudinal studies is difficult to perform and are ongoing.

Social Media Risks

The focus of research on social media use is to identify individual experiences putting adolescent emotional well-being at risk.^{5-13,25} Individual user vulnerabilities and the effects of digital media on those vulnerabilities is suspected of causing them to engage with social media in adaptive or maladaptive ways.⁸ For example, adolescent tendencies toward depression, anxiety, and loneliness

affects how they use social media. Additionally, social media use by some females can be concerning, since female adolescents report spending more time on social media and experience poorer mental health than male peers.⁶

Social Comparison Feedback Seeking (SCFS) behaviors include comparing oneself negatively to others, posting altered photos of themselves and frequently seeking feedback on posts. In a longitudinal study of 816 participants, it was found that adolescents with SCFS had higher-levels of depressive symptoms. Notably, there was a stronger association between SCFS behaviors and depression in girls than in boys.⁹ SCFS has been linked to decreased self-esteem and mental health, along with disordered eating.⁸

The Fear of Missing Out (FoMO) on social events with peers is a common experience among adolescents and creates emotional decline in some adolescents when not included in social activities. As the number of social media accounts and self-reported frequency of checking them increases, so does the likelihood of FoMO and loneliness. Adolescents with FoMO do not always participate in social activities for connection but engage in them to avoid being isolated by their peers.⁵

Social Media Benefits

Although three-quarters of research has focused on the detrimental effects of digital media use, fewer studies have looked at the positive outcomes of technology on adolescent mental health.¹⁰ Social media has the potential to provide social connection, humor, entertainment, identity exploration, and creative expression for adolescent users.⁸ Importantly, social media has applications in connecting youth with mental illness to behavioral health providers, therapy groups and social support networks.⁸ In addition, it can provide educators with important tools and social arenas to communicate with pupils.⁷ More research and development of mental health technology is needed to maximize the benefits of social media on emotional well-being. The current adolescent population has not known time without the existence of digital technology. Therefore, they readily accept its use as a therapeutic and beneficial tool.

DIGITAL AND SOCIAL MEDIA SCREENING

Should Providers Screen

Most studies recommend in favor of screening for digital and

social media use in adolescents in the primary care and emergency settings.^{17,26-31} Specifically, a study by Pontes et al¹⁵ reported that adolescents tend to seek healthcare services within the month prior to a suicide attempt. Therefore, screening saves lives.

Who to Screen

Approximately 40% of adolescents with depression received treatment in 2016, which means they are often underdiagnosed and undertreated.³¹ The U.S. Preventative Services Task Force (USPSTF) recommends screening for Major Depressive Disorder (MDD) in all adolescents and is currently working on updates for suicide recommendations. Clinicians and school personnel working with young people who self-harm, have mental health issues or report a history of cybervictimization should engage in discussion about digital media use.^{1,16,17} To educate parents on the warning signs of declining mental health, The Adolescent Health Working Group has an excellent handout titled “Does My Teen Need Help?” (Box 1).

How to Screen

For a brief evaluation of an adolescents’ social media use and cyberbullying exposure, Clark et al²⁷ published a set of 5 questions that can be downloaded in paper form (Box 1). If there is suspicion of social media addiction, the Bergen Social Media Addiction Scale can assist providers in the diagnosis. It comes in paper form created by Shahnawaz et al³² and digital form through the website of blocksurvey.com (Box 1). The FoMO questionnaire by Pryzbyski et al³³ can help providers assess for isolation and loneliness in their patients (Box 1).

For adolescent depression, the PHQ-A has been recommended by the USPSTF.³¹ There are paper forms of a modified PHQ by Johnson³⁷ (Box 1) and digital forms available for use. The Short Mood and Feelings Questionnaire (SMFQ) is another option by the Duke University Epidemiology Program³⁸ (Box 1).

If there is concern for suicidal ideation, the USPSTF and NIH recommend the Ask Suicide-Screening Questions (ASQ) and can be found in the NIH toolkit^{28,39} (Box 1). Patel et al³⁰ studied a 2-question suicide risk tool on adolescents presenting to a pediatric urgent care and found positive responses in 95 out of 4,786 patients, with 88 of them requiring referral for mental health care. These questions included, “*In the past week including today, have you felt like life is NOT worth living?*” and “*In the past week including today, have you wanted to kill yourself?*” If either of these are positive, adolescents

Box 1. Questionnaires for Provider Use

1. Does My Teen Need Help? Behavioral Warning Signs.³⁵
2. Social Media Use and Cyberbullying Questionnaire.²⁷
3. Social Networking Addiction Scale.³²
4. Bergen Social Media Addiction Scale.³⁶
5. Fear of Missing Out Scale.³³
6. PHQ-A modified for Teens.³¹
7. Mood and Feelings Questionnaire: Short Version.³⁸
8. Ask Suicide-Screening Questions (ASQ) Toolkit.³⁹
9. HEEDSSS 3.0: The psychosocial interview for adolescents updated for a new century fueled by media.⁴⁰

need further evaluation with the Columbia-Suicide Severity Rating Scale (C-SSRS) or urgent appropriate referrals.

The Home environment, Education and employment, Eating, peer-related Activities, Drugs, Sexuality, Suicide/depression, and Safety (HEEADSSSS) psychosocial interview for adolescents has been well-studied and recommended by the USPSTF²⁷ (Box 1). The categories include Home, Education/Employment, Eating, Activities, Drugs, Sexuality, Suicide/Depression, Safety and the most recently included Social Media category. This evaluation is an overall mental and physical health interview and needs more time to conduct. It comes in paper and digital forms.

A study by Ho et al³⁴ found that digital surveys provided a self-administered, time-efficient screening tool that has substantially higher disclosure rates than oral surveys. However, digital tools are not always available in screening environments. Tickethealth.com is a fee-based software service that provides digital PHQ-A, HEEADSSS, Rosenberg Self-Esteem Scale and General Anxiety Disorder (GAD-7) tools.

CONCLUSION

Social media will continue to hold significant importance in adolescents lives and be a part of their social structure for many years to come. Therefore, to preserve adolescent mental health, medical providers have a responsibility to screen and educate adolescents on the safe use of social media. To date, mostly associations have been made between time spent on digital media and decreased adolescent mental health, but cause and effect data are limited. Excessive time spent on digital media is a factor, however specific social media experiences upon vulnerable individuals are likely more influential in some adolescents and deserve attention when assessing for risks of use. In addition, by recognizing the positive influences of social media on adolescents, providers can recommend healthy and therapeutic uses of this social communication tool.

CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

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