The Good News About Preventing Adolescent Depression

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Major depressive disorders have long been characterized as major public health problems requiring the attention of multiple of stakeholders from the public and private sectors. Depression is common and often has its roots in adolescence, which sets the stage for adult depression in later years (Avenevoli et al. 2008). Mental illness experienced by children and youth can be a struggle for the child and his or her family. The adolescent period has a variety of developmental tasks that set the stage for young adulthood, such as handling social relationships, attaining educational milestones, and finding a personal sense of identity. The onset of a major depressive episode can affect a youth's cognitive, affective, and behavioral development, as well as increase the risk for suicidal behavior, especially, if a young person is not provided adequate mental health services.

The rates at which adolescents are experiencing major depressive disorders have increased in the last 5 years, as reported through the Substance Abuse and Mental Health Services Administration's (SAMHSA) National Survey on Drug Use and Health (NSDUH). Rates of adolescent depression that had been relatively stable, at around 8% for over 10 years, began to rise noticeably in 2012 and have continued to rise, culminating in the most recent 2015 survey results of 12.5%. This rise is not uniform. Girls are faring worse than boys, with Latina girls showing the highest rates of depression. Boys' rates have fluctuated from 4.3 to 5.7% in the last decade, where girls have risen from 11.9% in 2007 to 17.3% in 2014. LGBT-identifying youth, American Indian and Alaska Native youth, and those who have experienced bullying also show higher rates of experiencing a major depressive episode (HHS 2015). Adding to the concerning rise in rates of adolescent depression is the fact that only 39.3% (1.2 million) received treatment (SAMHSA 2017).

There are a number of theories about why this increase in depression may be occurring (Avenevoli et al. 2013). Researchers suggest that increased exposure to and use of social media may be a contributing factor (Lin et al. 2016; Levenson et al. 2016; Lemola et al. 2015). While the number of youth using the internet has not changed in the past decade, the way they use social media has changed. Smartphones are the accessory of choice—with 73% of adolescents using one, and 94% going online daily—allowing for 24/7 access to social media (Lenhart et al. 2015). Lemola et al. (2015) found that adolescents and young adults who used electronic media in bed before sleep had higher rates of depressive symptoms. Dr. Dan Primack from the University of Pittsburgh's Center for Research on Media Technology and Health found that when it comes to depression, social media provides no protection at any level. The number of “friends” and “likes” on Facebook has no effect on happiness, and in fact with increased social media use, researchers found increased reports of depression (Lin et al. 2016). With increased use of social media, and with changes in community and family structures, researchers also theorize that these increased rates of depression may be tied with removal of protective experiences such as spending time with peers and family. While researchers continue to explore the “why” behind the increasing rates of depression, findings like those discussed in the articles of this supplement provide critical information on the “how”—how to reduce these alarming rates. Interventions that prevent or delay the onset of major depression in adolescence are viewed as important public health strategies but can lack research that specifies for whom and under what circumstance a specific intervention is effective. As the public sector moves to implement evidence-based intervention in a variety of populations in setting outside of the hospitals and clinics, the question arises, “Why are preventive interventions not helpful to the same degree to all participants?”

We do know that each person is born with unique assets and challenges that affect how they grow and develop biologically, psychologically, and socially. The adults in a child's and youth's family, as well as those in neighborhoods, in schools and the larger social environment can facilitate that person moving toward positive growth and development,

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including facing risks and challenges with a positive outcome. We often refer to overcoming adversity as promoting resilience.

There is good news out there. This supplemental issue of *Prevention Science* provides new data on an array of variables that influence the outcome of intervention programs that prevent the onset or delay the onset of adolescent depression. It is particularly relevant that the National Academy of Medicine and the National Research Council and Institute of Medicine (2009) reported the fact that preclinical symptoms often occur 2 years before the diagnosis of a major depressive disorder, which provides a window of opportunity for preventive interventions. Of particular importance is the specificity of the articles in this special supplement's results. Preventive interventions using a cognitive-behavioral therapy (CBT) approach or an interpersonal therapy (IPT) approach have been shown to be effective, especially those approaches delivered directly to the adolescent. These findings give the behavioral health community, the primary care community, and others that support cognitive, affective, and behavioral growth of youth the opportunity to think about how to disseminate these evidence-based preventive interventions tools. These tools can be valuable for local practitioners who work with youth, including who are showing the very beginning signs and symptoms of depression before they are actually become ill. Additionally, the data revealed that individuals from minority populations responded with the same effects as did individuals from the majority population. This is especially important when we consider that Latina girls are experiencing a major depressive disorder at the highest rate. The authors considered this an important finding if preventive interventions can be delivered where access to primary and mental health care is limited and/or considered stigmatizing. These preventive interventions, for example, could be delivered by trained practitioners in school settings.

Early research made clear that more knowledge was needed to identify various subgroups that respond differently. The research described within this special issue provides more specificity in examining complex questions about when preventive interventions help or harm and the characteristics of adolescents, parents, the family, and other variables that moderate the effects.

Maternal history of depression and maternal active depressive symptoms are known to negatively impact preventive cognitive behavioral programs. In this supplement, Garber et al. identify specific risk clusters of youth, such as level of functioning and degree of anxiety, which add to the previously reported importance of parental depression and help clinicians acknowledge the significance of a youth's own history or preclinical manifestation of depressive symptoms. Likewise, treating parental depression simultaneously while providing a preventive intervention for the youth in a family would in essence be acknowledging and treating a malleable risk factor prior to or during the implementation of the preventive

program, thus increasing the likelihood of a positive outcome. Also in this supplement, Brunwasser and Gillham examine moderators of response to the Penn Resilience Program (PRP). They found for youth in early adolescence moderators related to contextual factors (i.e., where the intervention was implemented, such as a school setting that supported the intervention) and the marital status of a parent were of high importance in accounting for the instability of outcome effects, thereby recommending additional research on these moderators. Connell, Stormshak, Dishion, Fosco, and Van Ryzin investigate the Family Check Up (FCU) and give the reader an exposure to the concept of a "timing hypothesis." For example, an intervention delivered in grades 7 and 8 may have its fullest effect in grade 9 and only for a subgroup showing initial low symptoms, but increasing over time. The FCU also illustrates an unexpected finding that while its purpose was to reduce child problem behavior, it also was effective in preventing depression with this particular subgroup. A study of particular interest to clinicians is the Fast Track Program assessment of the validity and reliability of a parental rating scale used in home visits verifying that clinical judgment plays an essential role in assessing psychosocial characteristics of specific clients and their level of functioning, thus affecting choice of intervention and dose.

Of special note is the introduction of new statistical method called integrative analysis (IDA) that allowed the authors to combine single-trial individual level data of 19 adolescent depression prevention trials yielding a total of 5210 subjects, and that had sufficient statistical power needed to discover the true effect of these preventive interventions (Brown et al. 2016) Details on this integrative data analysis approach can be found in the Brincks et al. (2017a) article. Brincks et al. (2017b) used an analytic tool called growth mixture modeling (GMM) to take a deeper look at four distinct Familias Unidas trials. The researchers were able to uncover which adolescents responded best to this intervention. They found that adolescents with the highest risk profile for both internalizing and externalizing symptoms, in addition to other family factors, had the best response in reducing internalizing symptoms from this family-focused intervention. It is a standard practice that clinicians offering family preventive interventions aim for a full dosage with high attendance rates. Mauricio et al. provide the counter intuitive finding that more attendance does not necessarily contribute to better outcomes, but rather level of internalization symptoms was important. Interestingly, the families categorized as mid-program drop-outs showed children with biggest decline in baseline internalizing systems; it was suggested that parents withdrew the child from the intervention when they functionally improved.

When prevention scientists provide the prevention and behavioral health services fields with robust research regarding

the efficacy of preventive interventions that address a significant public health problem, such as adolescent depression, it gives us a way to more accurately focus and prioritize resources. Unlike with a pharmacological breakthrough where all American clinicians can be notified readily, in the prevention field, there are limited local community structures or systems ready to disseminate new preventive interventions. It is important for SAMHSA, as well as researchers, to share synthesis research like this with those community coalitions and institutions, such as schools, that can become natural partners in addressing adolescent depression. SAMHSA has long invested in improving the behavioral health of the nation. Through programs such as the Safe Schools/Healthy Students Initiative (Safe Schools, Healthy Students 2016), Project AWARE (Project Advancing Wellness and Resilience in Schools 2017), and Implementing Evidence-based Preventive Interventions in Schools, SAMHSA provides funding to states and school districts to implement evidence-based programs, such as PRP and those grounded in CBT, such as Cognitive Behavioral Intervention for Trauma in Schools. These programs also support important activities such as implementing screening, referral, and information sharing systems, as well as assistance in building or enhancing school-based mental health programs and linkages to community supports and services. SAMHSA also supports the National Registry for Evidence-Based Programs and Practices (NREPP), a repository and information hub on evidence-based programs, such as PRP, FCU, and Familias Unidas. Implementers, practitioners, and policy makers utilize the information in NREPP to make informed decisions on program usage (NREPP: SAMHSA's Registry of Effective Programs and Practices 2016). The research in this supplement supports SAMHSA's efforts to disseminate the evidence on the importance of well implemented prevention programs. We realize that investing in programs that support the healthy development of youth—that maximize their potential for wellness, and minimize the potential for developing substance abuse disorders and mental illness, benefits not only the individual child, but the family, the community, and the nation as a whole.

Compliance with Ethical Standards

Conflict of Interest There author declares that there is no conflict of interest.

Research Involving Human Participants and/or Animals No human or animal participants were used in the development of this editorial.

Informed Consent Informed consents were not required as no human subjects were used in the development of this editorial.

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