

Adolescent Depression Prevention Growing Up: Challenges and Future Directions

Sanne P.A. Rasing^{*1,2}, Daan H.M. Creemers^{1,2},
Yvonne A.J. Stikkelbroek^{2,3}, Rowella C.W.M. Kuijpers^{1,4}
and Rutger C.M.E. Engels^{3,4}

*Corresponding Author

¹Corresponding address: Behavioural Science Institute,
Radboud University, P.O. Box 9104, 6500 HE Nijmegen,
The Netherlands.

+31-24-361-2123 (voice)

+31-24-361-2776 (fax)

²GGZ Oost Brabant, Boekel, The Netherlands

³Utrecht University, Utrecht, The Netherlands

⁴Trimbos Institute, Utrecht, The Netherlands

(s.rasing@bsi.ru.nl)

(d.creemers@ggzoostbrabant.nl)

(y.stikkelbroek@uu.nl)

(r.kuijpers@ru.nl)

(engels@trimbos.nl)

Consequences of Adolescent Depression

The studies described in this special issue present an excellent overview of several topics that are trending in preventing depression in youth. All authors emphasize the burden of depression and the detrimental consequences in the short and long term. For youth aged 13 to 17, lifetime prevalence of depressive disorders is estimated at 12.6% in Western societies (Kessler, Petukhova, Sampson, Zaslavsky, & Wittchen, 2012). Depressive disorders have a cascade of consequences on young people's lives, such as problems in social and family functioning, poor academic performance, higher school drop-out rate, and unemployment (Jaycox et al., 2009; Quiroga, Janosz, Bisset, & Morin, 2013). Long-term consequences on physical and mental health are increased risk of substance abuse, sleeping disorders, depressive disorders in later life, suicide attempts, and completed suicide (Balazs et al., 2013; Hölzel, Härter, Reese, & Kriston, 2011). Besides individual consequences, depressive disorders place a large burden on society (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). Research shows that depressive adolescents have a higher use of health care, more loss of work or school productivity, and parents of depressed children and adolescents showed more absenteeism at work (Keenan-Miller, Hammen, & Brennan, 2007). Because of the increase in depressive symptoms during this particular phase in life and its dramatic consequences on a global scale, all authors stress the evident necessity of depression prevention in adolescence.

Results of Depression Prevention

There is evidence that depression prevention programs have a reducing impact on depressive symptoms (Calear & Christensen, 2010; Merry et al., 2012). A recent meta-analysis on depression prevention showed that universal and targeted prevention programs can be effective in reducing acute depressive symptoms and depressive episodes. Effect sizes of universal prevention have been shown to be small (at best) and lasting up to three to nine months, very likely to be explained by the fact that it is difficult to detect an effect in the general population where the level of depressive symptoms is low. Targeted, i.e. selective and indicated, prevention programs have shown larger effects, but these seem to disappear after 12 months (Merry et al., 2011). All authors contributing to this volume agreed that the effectiveness of depression prevention needs to be increased and several suggestions have been made that can contribute to this result.

Difficulties and Challenges in Depression Prevention

All contributing authors underline the challenges related to prevention of depression in youth and highlight various barriers when facing depression prevention. Firstly, there are limitations in current research designs. In many studies, there is a remarkable impact in passive control conditions, implying that depressive symptoms also significantly decrease in control conditions. This indicates that we have to pay more attention to using other comparison groups, such as active control group or low attentive control groups, but also study potential placebo effects. Besides the commonly used symptom rating scales, we suggest using clinical interviews to measure reduction in, or the prevention of, the actual clinical disorders. Further, effects are measured only during a relatively small follow-up period, and effects in the longer term are often not measured. There is an urgent need for outcome measures longer than 12 months after ending the preventive intervention to determine the real preventative value of the programs in the longer run.

Secondly, despite the findings of some prevention studies, few to none of the depression prevention programs are widely implemented. Implementing depression prevention on a large scale as part of routine care in promotion of general adolescent well-being is not easy to realize. As both Stallard, and Weichold and colleague suggested, schools might be the best place to promote general well-being through universal prevention, identify adolescents at risk and deliver targeted depression prevention programs, because schools provide largescale access to adolescents



and are familiar and accessible places to both adolescents and their parents. Due to a lack of cost-effectiveness studies and implementation research, it remains hard to convince policy makers of the ultimate gain that will compensate for the current investments.

Thirdly, adolescents are often reluctant to participate in programs, regardless of whether the aim of the preventive intervention is research or regular mental health care. In addition, it is hard for professionals to keep adolescents engaged in the program and numbers of drop-out in both research and care are known to be high, which evidently has consequences for effectiveness. In order to motivate adolescents to participate in prevention programs, we have to make sure that both the content and the means of delivery match their interests and perceptions. One mismatch between current programs and adolescents arises from the large heterogeneity in depressive symptoms. In adolescence, the daily, weekly and even monthly fluctuations in depressive symptoms can be substantial. This might make it hard to convince adolescents of the need of depression prevention. Interventions such as emotion regulation training or mindfulness training aimed at broader and underlying mechanisms, as was suggested by Braet and colleagues and Calvete, are focused on promoting positive skills and might, therefore, be more motivating. Another suggestion is that we must make more use of modern technological developments as alternative means to train skills—such as applied games, as advocated by Granic—which are ubiquitous in the lives of present-day adolescents.

Fourthly, the factors on which the identification of high-risk adolescents is based should be evaluated. At the moment, it is common to screen for depressive symptoms to detect high-risk adolescents in an early stage. Yet, determining other factors that contribute to an increased risk for developing a depression or depressive symptoms, such as poverty, lack of support from caregivers, or lack of parents' care and affection, might be as essential. These can be used as factors to identify adolescents vulnerable to depression. We have to keep in mind that depression in adolescents is heterogeneous, and combinations of predictors can lead to different structures in depressive symptoms. Consequently, we should study whether it is possible to identify several "risk-profiles," containing multiple factors that are related to various developmental trajectories of depression and the heterogeneity of depressive symptoms in adolescence. This might imply that different risk-profiles require different prevention strategies.

Fifthly, in the cases in which data are available, the lasting effects of indicated prevention are disappointing, suggesting also high rates of relapse of depressive symptoms in adolescents. The duration of effects of preventive interventions needs to be improved to instigate a long-lasting effect on the mental health of adolescents.

Lastly, we need to change our perspective in how we look at depression prevention and shift from seeing it as one single program towards an integral multi-modal strategy to improve mental health. When we think of depression prevention in terms of a strategy, we take a broader range of outcomes into consideration instead of just looking at depressive symptoms, such as better general functioning, cross-over effects on anxiety, more awareness of one's mental health, less bullying, better homework completion rates, and lower absenteeism, as was suggested by several

authors. In addition, insights into the effects of depression prevention on achieving developmental milestones is scarce and needs to be further investigated (Peters et al., 2016). Depression prevention as a strategy involving a wide, more comprehensive set of stakeholders might be more appealing for schools to implement, and might be less stigmatizing when it is embedded in the school structure and supported by active stakeholders.

New Opportunities in Depression Prevention: Future Directions

The number of youngsters receiving *treatment* for depressive disorders are still quite low, yet has increased over the years and keeps growing, resulting potentially in a profound increase of societal costs. Despite the barriers to early recognition of depressive symptoms and the unsatisfying results of effectiveness studies on universal prevention, depression prevention has proven to be an alternative approach to treatment with great benefits for adolescents as well as for society. One suggestion is to combine universal with indicated prevention. Universal depression prevention programs have the potential to enhance resilience and have an impact on the psychological well-being of children by preventing psychosocial adaptation problems and promoting social competences. Indicated depression prevention trials in adolescent populations suggested that prevention aimed at individuals with elevated depressive symptoms is an effective strategy to use on a large scale. The combination of enhancing resilience in the total population and additionally reducing depressive symptoms in high-risk populations can serve as a stepped-care approach for depression prevention, and should be further developed and actually improved to increase effectiveness and create a more sustainable impact.

Suggestions for Future Research

- Importance to create awareness for mental health, as well as lower stigma, among the general population and specifically in youth in order to promote mental health. Universal prevention could be used to promote awareness, and could therefore lay a base for early detection, openness about one's feelings, and seeking help earlier in the process.
- Give thought to the settings in which prevention strategies should be implemented. Schools still seem the most logical place to promote mental health and to get in contact with adolescents at risk for depression. Schools should be held responsible and accountable not only for the educational success of students but should also play a natural role in the mental health promotion of their students.
- Universal programs that focus on teaching general "life skills" should be a first step in preventing many social-emotional problems, including depression. The second step should be early identification of high-risk adolescents and reducing the risk by means of indicated prevention programs. A package of intervention modalities, on different levels and with involvement of various stakeholders, is warranted to create optimal success.

- Explore possibilities to personalize depression prevention programs. This requires a flexible or modular approach—often involving e-mental health—to adapt the prevention strategies to individuals.
- Develop prevention programs that incorporate e-health and m-health technologies. These programs might be easier to disseminate and may be more convenient for adolescents with a lack of motivation to monitor mood, or who forget to do the homework, as is inherent in depressive adolescents. These programs also have a better potential to reach a large population, which increases dissemination opportunities. Also, direct feedback on behavior can be integrated into daily life. For example, when passive behavior is monitored through wearables, adolescents receive messages advising them to be more active. This also increases the possibility to tailor the intervention to the individual (personalizing).
- Commonly used methods of assessments (self-report questionnaires) do not seem to grasp the dynamics of depression, so different ways to monitor depressive symptoms are essential. For instance, new technologies (i.e., sensor technology) might provide a perfect platform for more real-time and accurate information about changes in behavior and activities, resulting from prevention programs.

Conclusion

Depression prevention practice and research have developed in recent years and have proven to have great benefits for adolescents as well as for society. Future research can contribute to finding solutions for improving the effectiveness of prevention programs and the implementation of innovative solutions.

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