Universal prevention of depression at schools: dead end or challenging crossroad?

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ABSTRACT

Universal school programmes aimed at the prevention of depression and other common mental health problems in adolescents are attractive because they are less stigmatising than targeted interventions, have a high uptake and may shift the 'normal distribution' of mental health problems in the positive direction. Research up to now shows small effects of these interventions, but even small effects may have a large impact because of the large number of people receiving these interventions. However, such small effects may also be related to the modest quality of the trials in this area. This means that current research has no clear indication whether universal prevention has a large public health impact or no impact at all. The MYRIAD trial is a large, fully powered, high-quality study showing that universal prevention probably is not effective, although it it is possible that other interventions or approaches do have significant effects. We should seriously consider to move to other approaches to reduce the disease burden of depression in adolescents. Indirect approaches seem to be a feasible and promising alternative approach to prevention and increase the uptake of effective interventions.

The idea of learning skills to manage mood in all adolescents in schools is not new. It is well known that mood management skills work quite well when people already have developed depression, so why not teach them to all adolescents at school, so that they know what to do later in life when they get depressed? The first randomised trials of such depression prevention programmes at schools were published in the 1990s,[1] building on the trials examining more general mental health prevention programmes at schools that started in the 1950s.[2]

PROMISE OF UNIVERSAL PREVENTION

Such 'universal' prevention programmes are attractive for several reasons. One important reason is that they are not stigmatising. Everyone gets the intervention, not only high-risk groups or people who already have some symptoms, so the stigma will be low.[3] Universal interventions are also interesting because they are aimed at a total population where targeted interventions reach only a small proportion of this population. Because the uptake of targeted interventions is low in adolescents, a large part of those needing these interventions will never get them. That is not the case with universal interventions because they reach the total population of adolescents.

Another reason why universal prevention is attractive is that it may move the 'normal distribution' of mental health problems a little to the positive side. This argument goes back to the work of Geoffrey Rose,[4] who said that determinants of ill health are typically normally distributed in the general population. In this view, the most efficient way to prevent ill health is to shift the normal curve, just a little, into the positive direction. That can be done with universal interventions, such as school programmes aimed at all adolescents. Just a small change of the normal curve will have a huge impact on the number of people at the extreme side of the curve, and more efficiently than a 'high-risk' or targeted strategy.

So in principle, universal interventions are very attractive and promising. However, universal prevention is only interesting when it is indeed effective. A meta-analysis of 43 randomised trials of mindfulness-based universal interventions in this issue found some effects on anxiety and stress on executive functions and social behaviour, but all effects were very small (standardised mean difference (SMD) <0.2) and no significant effect was found for depression, well-being or other outcomes.[5] In another meta-analysis of 31 trials examining universal prevention of depression in children and adolescents, a significant but very small effect size (SMD of −0.11, 95% CI −0.05 to −0.17) was found.[1]

MAJOR PUBLIC HEALTH IMPACT OR INEFFECTIVE?

One could conclude that these results are exactly in line with the ideas of Rose. A small effect on the whole population of children and adolescents suggests that the normal curve in this population has moved a little into the right direction. Such an effect is small, but the impact can be huge because impact should be understood as the product of the size of the effect and the uptake. Because universal prevention is aimed at the total population, a tiny effect may have a much larger impact on the population level than large effects of a targeted intervention in a small group with existing problems or a strongly increased risk.

However, there are several problems with such a conclusion. First, a large part of these 31 trials did not have an optimal quality and considerable risk of bias. This means that the data are uncertain. This is especially the case when effect sizes are small. Then we need only a minor error in the methods or in the design of these trials to make the results non-significant. Furthermore, these effects were only

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significant at post-test; at the longer term, they were no longer significant.

So how should the results of these trials and meta-analyses be interpreted? One the one hand, the small effects that were found in these studies may indicate that universal prevention has an enormous impact on mental health of young people, possibly shifting the normal distribution a little in the right direction. On the other hand, the significant findings may be spurious and the result of biases in the trials and meta-analyses that have been conducted. The data can be interpreted in both directions and there is no way to decide which of the two is right. After decades of research and dozens of randomised trials, we do not know whether universal prevention is an important public health instrument improving the mental health of young people considerably or an ineffective instrument that should not be implemented on a large scale.

NEW LARGE, HIGH-QUALITY TRIALS TO SOLVE THE DISPUTE

In this context, there is only one way forward, namely, to do new, large, high-quality randomised trials examining the effects of universal prevention, with sufficient statistical power, making sure that there is no methodological error that could affect or bias the outcomes. That is exactly what Kuyken and colleagues did in the MYRIAD trial, which is reported in this issue.[6] Only such large, high-quality trials can give new information on whether universal prevention is an important public health instrument or an ineffective intervention. Whatever the outcomes of this study were expected to be, the fact that they had the courage to do this trial is to be highly commended.

The results of the MYRIAD trial from Kuyken and colleagues are not positive about universal prevention in schools. We seriously have to consider that universal prevention of mental health problems in schools is not effective. It could, for example, be the case that the intervention, mindfulness, is not effective and that other interventions are effective, or that interventions aimed at students should be embedded in a broader package of school-wide measures to improve mental health problems, as is happening in other areas.[7 8] Maybe the 'usual care' interventions are so good in high-income countries that a universal intervention has no additional effects.

However, it is at least as probable that universal interventions in schools simply do not work or do not work enough to have a public health impact. The idea of teaching young people skills that they can use when they will develop mental health problems may simply not work. Trials cannot say why interventions are effective or why they are not effective. However, maybe adolescence is not the right time to learn psychosocial skills to handle mental health problems because adolescents are in the middle of major changes in their life and cannot integrate such skills in these developments. Maybe mindfulness is not attractive or 'cool' enough for young people.

NEXT STEPS

What is the next step if learning psychosocial skills is not an effective universal intervention? If universal prevention does not (sufficiently) work and the uptake of targeted interventions is too low to have a major impact on the disease burden of common mental disorders, what can we do? We could think of more intensive or different universal approaches or we could focus on interventions aimed at increasing help-seeking rates, such as mental health awareness campaigns,[9] gatekeeper training[10] and specific interventions aimed at improving help-seeking behaviours.[11] Another promising method to increase uptake is 'indirect' prevention and treatment. Indirect interventions focus on problems related to common mental disorders but not directly on these disorders themselves.[12 13] For example, in adolescents, such interventions could focus on insomnia, perfectionism, worrying, procrastination or other psychosocial issues that they struggle with. These interventions are not directly focused on depression or anxiety, but they focus on the primary problems young people struggle with. However, during such interventions, they learn cognitive–behavioural skills that also reduce depression and anxiety. There is much evidence that students who suffer from this kind of psychosocial problems are also the ones who suffer from depression and anxiety, and interventions aimed at these problems also reduce common mental disorders.[14] Especially in specific settings, like high schools, suites of such interventions may be developed, for example, through digital tools.[12]

CONCLUSION

After decades of research, we did not know whether universal prevention in schools resulted in important public mental health benefits or was simply not effective. The fully powered, high-quality MYRIAD trial was a courageous attempt to come up with the right answer. It showed that universal prevention is probably not effective. Although no definite conclusion about this can yet be drawn, because there may be alternative explanations for the null findings, we seriously have to consider that it simply does not work. That is not a positive conclusion, but it does point out that we may have to consider other options, such as indirect interventions, to prevent and intervene early in adolescents to reduce the disease burden of common mental disorders.

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