CAGE

Policy Brief

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Antidepressant use in childhood: Evidence and implications

Sonia Bhalotra (University of Warwick), N. Meltem Daysal (University of Copenhagen) and Mircea Trandafir (ROCKWOOL Foundation)

Overview

Across the world, about 15% of children age 10-19 experience a mental health disorder (WHO 2022). Mental health disorders often begin in childhood, with half emerging by age 14 and two-thirds by age 24. If left untreated mental health disorders tend to persist, highlighting the need for early intervention. However, treatment rates are low, and it is estimated that about half of those in need do not receive treatment. Pharmacological treatment in particular has been controversial for children.

New evidence from a large-scale study using Danish administrative data suggests that antidepressant treatment for children aged 8–15 with mental health needs may lead to improved long-term outcomes. These include stronger educational attainment, better employment prospects, reduced reliance on welfare benefits, and lower rates of self-harm and suicide attempts. Further analysis in this study suggests that, in Denmark, antidepressants may be under-prescribed, especially to children from families of lower socio-economic status.

These findings do not rule out adverse effects which, as with any medication, can arise in a small fraction of users. However, they suggest that carefully supported treatment can improve life chances, particularly for disadvantaged children.

What the data tell us

A unique feature of the study is that it links longitudinal administrative data on health, education and labour market outcomes over time. Children referred to a child psychiatrist are tracked through into taking the age-16 national exams and, further, into adulthood. This research provides some of the first evidence of impacts of antidepressant treatment in childhood on future education and labour market outcomes.

It is also the first study to look at how antidepressant treatment impacts objectively measured mental health indicators. Most clinical trials track subjectively reported symptoms from relatively small samples of individuals across short follow up periods, and it is thought that the estimates may be contaminated by individuals knowing that they are participating in a trial.

Independent policy-driven research informed by history, culture and behaviour.

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In general, it is hard to identify causal effects of antidepressant treatment in observational data because individuals who seek treatment may have different potential outcomes from those that do not. To solve this problem, this study leverages idiosyncratic variation in the prescribing tendencies of child psychiatrists. It is similarly challenging to identify under-treatment versus over-treatment.

It is similarly challenging to identify under-treatment versus over-treatment. The authors tackle this problem by using statistical methods that allow them to estimate impacts of antidepressant use on children who, in fact, do not use antidepressants. This approach also allows them to study how economic outcomes (pegged upon the test score in maths at age 16) would change if prescribing rates for children of high and low socioeconomic status were equalised, and if discretion in prescribing behaviour at the tails of the distribution was moderated by regulation.

Key outcomes impacted by childhood antidepressant treatment:

- Higher academic performance by age 16, particularly in mathematics.
- Greater participation in post-compulsory education.
- Improved employment and earnings outcomes in adulthood.
- Lower dependence on social security benefits in adulthood.
- Reduced incidence of self-harm, suicide attempts, and related hospital contacts in the three months following initiation of antidepressant use.

The gains appear strongest among children from disadvantaged socioeconomic backgrounds, despite these groups being less likely to receive treatment.

The additional analysis of under-treatment versus over-treatment (with antidepressants) is consistent with children being under-treated. This is most clear among boys, and among children of mothers who do not have a university degree.

In Denmark, medical guidelines advise that children are prescribed **therapy before and alongside any medication**. The findings of this study can therefore be interpreted as evidence of the impacts of adding antidepressant treatment to therapy.

In contrast to the UK, in Denmark, **GPs are encouraged to refer children to child psychiatrists if they feel that the child might benefit from medication**. The study therefore analyses those children that are referred to a psychiatrist, which is 7% of all children age 8-15 years. Among these children, 15% are prescribed antidepressants.

Key considerations

The study uses national administrative data from Denmark to link children's health, education, and later labour-market outcomes. It applies robust statistical methods to separate the likely effects of treatment from sorting of patients across psychiatrists. It uses differences in psychiatrists' prescribing tendencies to estimate causal effects rather than simple correlations.

Educational Outcomes

- *Improved academic performance:* Anti-depressant treatment between ages 8–15 leads to significant gains in national test scores at age 16, especially in mathematics.
- *Closing the gap:* Treatment offsets the academic disadvantage associated with mental health diagnoses.
- *Higher educational attainment:* Treated children are more likely to enrol in post-compulsory education at age 18, with girls and children from more educated families being more likely to continue in the academic track, and boys and children from less educated families more likely to continue in the vocational track.

Economic Outcomes

- *Labour market gains:* Treated children show higher employment rates, greater earnings, and reduced welfare dependency by ages 25–30.
- *Stronger effects for disadvantaged groups:* Children growing up with a low socio-economic status benefit most, which is notable as these children are less likely to receive treatment.

Health Outcomes

- *Reduced harm:* Anti-depressant use is associated with fewer suicide attempts, self-harm incidents, and hospital visits in the short term. As these results are averages, they do not rule out that there were side effects among a few children.

Equity and Access

- *Under-treatment of vulnerable groups:* Children from less educated families and boys are less likely to be prescribed anti-depressants despite higher or similar returns to treatment.
- *Physician discretion matters:* Prescribing rates vary widely across psychiatrists, influencing who receives treatment, conditional upon their demographics and the economic position of their family. Therefore, which physician the child sees can determine their outcomes many years later.

The study should be used as evidence for expanding timely, monitored treatment options, not as evidence for mass prescribing. While it provides new large scale evidence of the longer run benefits of antidepressant treatment, it supports access, specialist assessment, and combined care pathways rather than a medication-first policy.

What this means for UK child mental health policy

The research shows that **leaving child depression and anxiety untreated, or relying entirely upon therapy, can impose long-term social and economic costs,** while timely, evidence-based treatment may improve educational and labour market outcomes.

In Denmark close to 7% of children age 8-15 are referred by their GP to a child psychiatrist. Of those referred, 15% are on antidepressants which means that just over 1% of the population of children is on medication. Research carried out on healthcare records in England between 1998 and 2017 shows a very similar rate of 1.1% of children (age 5-17) were being prescribed antidepressants. **Consequently, the overall prescribing rates in the two countries appear similar.**

Guidance from the National Institute of for Health and Care Research (NIHR) in the UK recommends that GPs refer children to psychiatrists if they think that medication may be helpful. However, only 1 in 4 of those children who are on medication have seen a specialist. In Denmark the guidelines are the same but most children who are on anti-depressants have seen a specialist and are being monitored by them.

Where clinically justified, carefully managed antidepressant treatment in childhood may be a useful part of early mental health intervention.

This study provides compelling evidence that antidepressant treatment in childhood can yield significant long-term benefits, particularly for disadvantaged groups. Policy should focus on reducing inequities in access and supporting early, effective intervention.

Further information

Read the research : Sonia Bhalotra, N. Meltem Daysal, and Mircea Trandafir 2025 Antidepressant Treatment in Childhood CAGE Working Paper 766

Contact the researchers

Sonia Bhalotra, University of Warwick: sonia.bhalotra@warwick.ac.uk

N. Meltem Daysal, University of Copenhagan: meltem.daysal@econ.ku.dk

Mircea Trandafir, ROCKWOOL Foundation: mt@rff.dk