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Data Insight

Association of school absence and exclusion with recorded neurodevelopmental disorders, mental disorders or self-harm: A nationwide e-cohort study of children and young people in Wales

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This Data Insight examines the association of school absence and exclusion with recorded neurodevelopmental disorders, mental disorders, or self-harm in a large cohort of children and young people in Wales.

Background

Poor school attendance is associated with a range of negative outcomes across the life course, including poor educational attainment, unemployment, and poverty. Many governments, including UK governments, have recognised the importance of regular school attendance and have issued guidelines, which include penalty notices for carers/parents of persistently absent children and use of incentives to encourage high attendance[1].

Exclusions from schools in England and Wales are intended to be used in serious breaches of behavior policies such as violence, sexual abuse, supplying illegal drugs or using weapons[2]. Currently rates in England are rising, highlighting the importance of school-based policies that aim to improve behaviour and support teachers and are in place in the UK, the U.S. and elsewhere[3].

There is growing interest in school-based prevention and early intervention programs that focus on improving the school climate for reducing adolescent mental health problems. Other interventions have included psychological interventions that have focused primarily on anxiety and depression symptoms. This has increased relevance as children return to school following closures and blended learning in response to the Covid-19 pandemic. School-based mental health provision and integration with mental health services has been highlighted as a major strategic priority in the UK.

What we did

We linked routinely collected and de-identified educational data to demographic, primary and secondary health care datasets, creating a population-wide cohort of 437,412 students aged 7-16 between 2009 and 2013 in Wales.

We identified a wide range of clinically diagnosed and recorded mental disorders up to the age of 24. This age limit allowed us to include less studied conditions in this context such as bipolar disorder and schizophrenia which are more frequently diagnosed after school leaving age and their antecedents or pre-morbid presentation, such cognitive or social deficits, apathy, or self-medication with drugs, may affect attendance and exclusion. The size of the study allowed for the inclusion of less common diagnoses such as eating disorders.

Linking health and education data on this scale allows us to gain valuable insights on the education of children with neurodevelopmental and mental health disorders or self-harm. Since many older adolescents with common mental disorders are managed in primary care it is important to include this data source.

What we found

When looking at **absence** from school (being absent more than 10% of the time) the analysis found that compared with pupils who had no record of any of the disorders studied:

- Pupils with a record of self-harm were more than three times as likely to be absent
- Pupils with neurodevelopmental disorders were twice as likely to be absent (Adjusted ORs (aORs) of 2·0 (1·9–2·1))
- Pupils with a diagnosis of bipolar disorder were five and a half times more likely to be absent (aOR= 5·5 (4·2–7·2))

When looking at **exclusion** from school the analysis found that compared with pupils who had no record of any of the disorders studied:

- Pupils with a record of self-harm were about seven times more likely to be excluded than their peers whether they self harmed while of school age or later, when 17 or older; aOR were 7·3 (6·8–7·9) and (aOR=6·7 (6·3–7·2)) respectively
- Pupils with learning difficulties were almost twice as likely to be excluded - aOR of 1.8 (1.5, 2.0)
- Pupils with a record of drugs misuse (diagnoses could be recorded up to the age of 24) were 11 times more likely to be excluded - odds ratio 11.0 (10.0, 12.1)

Adjusted odds ratios for both outcomes increased with the number of mental health comorbidities and with deprivation in all conditions.

Age

Rates of absenteeism increased continuously with age. Notable increases in exclusion rates were seen among pupils aged 14 years with ADHD, conduct disorder, substance misuse and self-harm. These tended to decrease in the final year of secondary school. These findings could reflect a reduced direct influence of parents on older children's attendance or the smaller size of primary schools.

Gender

Within the diagnosed populations, girls with neurodevelopmental disorders, depression and substance misuse were more likely to be absent. Boys were more likely to be excluded than were girls across all studied disorders apart from bipolar disorder. This aligns with the view that boys externalise mental distress through

their behaviour which in turn impacts the school environment resulting in their exclusion, whereas girls, especially with emotional disorders or delayed diagnosis of neurodevelopmental disorders, tend to be more anxious and withdraw from social contact.

Special Educational Needs (SEN)

Having SEN status reduced the likelihood of being absent or excluded, most notably for those with records of neurodevelopmental disorders and bipolar disorder, compared to those with a diagnosis but no SEN status, potentially highlighting the positive impact of recognition, diagnosis and educational interventions.

Why it matters

This study highlights that children and young people with a neurodevelopmental disorder, mental disorder, or self-harm diagnosed and recorded before the age of 24 years were much more likely to miss school than their peers even after adjusting for age, sex and deprivation. As such, exclusion or persistent absence is a potential indicator for current or future poor mental health that is routinely collected by schools and local education authorities and could be used to target assessment and early intervention.

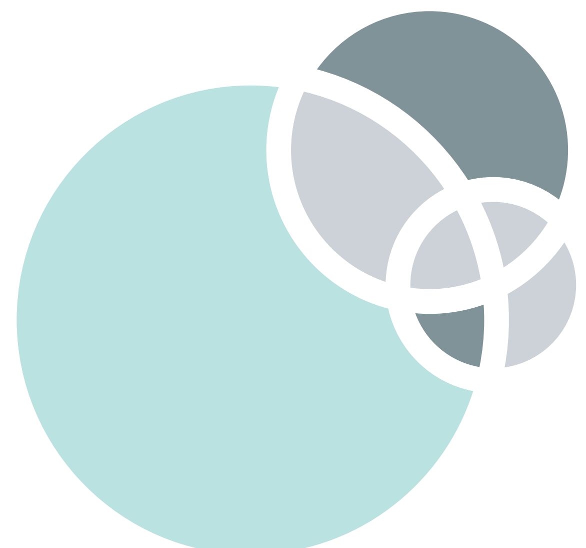
School-based mental health provision and integration with mental health services has been highlighted as a major strategic priority in the UK. This approach could benefit young people as highlighted by our finding that having a SEN status decreases the odds of being absent or excluded, even if not removing the risk completely. Therefore, attendance and exclusion data, that is already collected by schools, could provide useful information about where to focus limited resources. School based mental health prevention strategies may also help build resilience, enabling pupils to develop strategies for managing and improving their mental health and wellbeing as well as to understand when and how to seek additional help.

Integrated school-based and healthcare strategies to support young peoples' engagement with school life is required.

What next?

There are a variety of processes through which school attendance may be associated with neurodevelopmental disorders, mental disorders and self-harm. These include disruptive behaviours resulting in exclusion, physical comorbidities or somatic symptoms such as stomach pain and headaches leading to authorised absence, symptoms associated with anxiety and depression leading to school refusal, family problems and peer problems such as bullying. If absence from school results in social isolation and poorer academic performance, this could exacerbate mental health and attendance issues if the cycle is not disrupted.

Our study cannot infer causal relationships and further research should focus on the direction of the association, which may be bi-directional, for individual disorders and outcomes. Clinical record data may not be ideal for this because the documentation in clinical records will not represent an accurate measure of when symptoms or disorder first onset. However, even without an understanding of the direction of, or mechanisms, the demonstration of an association using "real life" outcomes and data is important.



Acknowledgements

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Further details on this study can be found in The Lancet Psychiatry.

References

[1] Welsh Assembly Government. Strategies for schools to improve attendance and manage lateness. 2011. https://dera.ioe.ac.uk/2945/3/110308section3en.pdf

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[3] US Department of Education 2015 https://www2.ed.gov/policy/elsec/guid/secletter/151007.html

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