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The Determinants of Assault-Related Attendances in Emergency Department: A longitudinal data-linkage study in Wales

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Objectives

Emergency Departments (EDs) can identify individuals who are susceptible to recurring violence through assault-related attendances (ARA), presenting an opportunity to connect them with support services targeting modifiable risk-factors. This study aims to profile ARA patients' socio-demographic, emotional and neurodevelopmental disorders to strengthen Hospital-based Violence Intervention Programs (HVIPs) and prevent further harm.

Method

This longitudinal data-linkage study utilised the Secure Anonymised Information Linkage databank to identify patients who are present in the Emergency Department Dataset (EDDS) with one or more ARA between 2012 and 2024. Patient records were linked to other routine health and administrative datasets to determine socio-demographic information (e.g. age, gender) and diagnoses of neurodevelopmental conditions (autism spectrum disorder, learning disability (LD), personality disorder (PD), attention deficit hyperactivity disorder (ADHD)), as well as mental-health, alcohol or substance use. Multivariable logistic regression models investigated risk-factors associated with ARA, while decision tree models visualised the hierarchy of these risk-factors.

Results

The cohort comprised of 3,993,439 individuals, of which 50.1% were male, 27.9% were aged between 30 and 50 years, 70.1% lived in an urban area and 19.9% came from the most deprived neighbourhoods in Wales. During the observation period, 1.8% had (at least one) recorded ARA. Significant risk-factors for ARA included being male (odds ratio 2.03, 95% confidence interval 2.00 - 2.07), experiencing substance use (3.41, 3.32 - 3.49), common mental health issues (2.86, 2.81 - 2.91), ADHD (1.67, 1.61 - 1.74), PD (1.66, 1.59 - 1.73), hav-

ing a record in the looked-after children database (2.55, 2.43 - 2.69), having an alcohol-related hospital admission (2.49, 2.43 - 2.55) and living in the most deprived neighbourhoods (2.26, 2.21 - 2.32).

Conclusion

The findings highlighted the characteristics of individuals attending EDs for a violence-related injury. This risk profile offers insights to identify vulnerable individuals and can help HVIPs to focus on planning upstream support.