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A preliminary study on use of anticonvulsants and risk of fracture in Rett syndrome

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Rett syndrome is a childhood neurodevelopmental disorder caused by mutations in the MECP2 gene. Seizures and severe intellectual disability are among the major features. We previously found an increased incidence of fracture in Rett syndrome cases. Subjects with MECP2 mutations p.R270X or p.R168X and/or seizures were particularly vulnerable to fracture. To assess the potential associations of anticonvulsants (AEDs) and risk of fracture in Rett syndrome, we examined available data on AED use and fracture in registered cases in the population-based Australian Rett Syndrome Database including follow-up questionnaires from 1996 to 2004. Of 234 cases, 193 (82.5%) had seizures, 194 (82.9%) had been treated with anticonvulsants and 85 (36.3%) experienced at least one fracture episode. The commonest three of 20 prescribed AEDs were valproate (n=135), carbamazepine (n=115) and lamotrigine (n=101). The median years of valproate use in cases who experienced at least one fracture was 7.4 years (P25 4.5; P75 13.3) compared with 3.6 years (P25 1.4; P75 10.0) in those who did not experience a fracture. The median years of carbamazepine and lamotrigine use in cases who experienced at least one fracture was 4.3 (2.0; 10.0) and 4.8 years (2.5; 7.3) compared with 4.0 (1.5; 9.1) and 3.1 years (2.0; 6.5) in those who did not experience a fracture, respectively. These findings suggest that long-term use of certain anticonvulsants may increase the risk of fracture in Rett syndrome. Further analysis will take into account other potential risk factors and confounders such as MECP2 mutation, hormonal medication, and mobility status.

Violence and related experiences among New Zealand youth: findings from a nationally representative health and wellbeing survey of secondary school students

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Aim

To examine the exposure to violence by youth and associated mental health factors.

Methods

An analysis of data from 9,567 randomly selected secondary school students (aged 12 to 18 years) participating in Youth2000. This cross-sectional, self-report anonymous survey was conducted in 2001 using multi-media computer-assisted technology.

Results

Exposures to violent behaviours in the previous 12 months reported by students included witnessing adults at home hitting or hurting other adults (6%), being bullied at school weekly or more (7%), being hit or hurt on purpose by others (males 51%, females 40%) and unwanted sexual contact (males 14%, females 26%). Overall, 49% of male and 32% of female students reported having hit or hurt others on purpose during the past 12 months, and smaller proportions reported forcing others to do sexual things that they did not wish to do (males 4%, females 1%) or carrying a weapon to school (males 3%, females 1%). Most students exposed to violence did not seek help from an adult. Young people exposed to one type of violence were more likely to be exposed to another type, particularly in the context of family violence and, among males, sexual victimisation. Students exposed to violence were more likely to report symptoms of anxiety and depression, suicide attempts, behaviour problems and substance use.

Conclusions

Some experience of violence is common in the lives of NZ youth. Services and agencies working with young people should consider the potential for these experiences to co-occur and be associated with significant mental health problems and other difficulties.