

Parental and child wellbeing in children with intellectual disability of genetic aetiology with a history of seizures.

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BACKGROUND

Seizures: Chronic pediatric seizures are associated with a wide range of behavioral problems in children and poorer parental mental health.^{1,2}

Genetic conditions: Can increase the risk of seizures in children.^{3,4}

IMAGINE ID: National study of psychiatric adjustment in children with Intellectual Disability (ID) of identified genomic origin caused by:

- **Copy Number Variants (CNV):** Microdeletions or duplications of chromosomal DNA.
- **Single Nucleotide Variants (SNV):** Single nucleotide or single base DNA mutations.

Rationale: No study has previously explored the impact of seizures on child behavioural adjustment and parental mental health in children with ID of known genetic origin.

Study hypothesis: Children with ID of known genetic aetiology who have persistent seizures will have greater behavioural problems and poorer caregiver mental health than those without seizures.

METHODS

- **Eligibility:** Participants aged 4-18 were recruited through a UK national study of behavioural adjustment of children with ID of known genetic aetiology (IMAGINE ID).
- **Sample:** Data was available on 133 participants. The average age of the participants was 9 years (SD = 3.9). The sample consisted of 63% males.

IMAGINE ID Medical Questionnaires
(n=133)

Seizures
41 (31.5%)

No Seizures
91 (31.5%)

Fig 1. Seizure prevalence among children recruited to IMAGINE ID.

Assessments:

- **Strengths and Difficulties Questionnaire (SDQ):** Primary caregiver's report of their child's emotional and behavioural adjustment.
- **Everyday Feelings Questionnaire (EFQ):** Primary caregiver's report on own mental health and wellbeing.
- **IMAGINE ID Medical Questionnaire:** Parent report questionnaire developed to collect information on child medical history (including seizure prevalence).

REFERENCES

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RESULTS

- 31.5% of children were reported to have seizures, 68.5% had no seizures. There was no difference in age between the two groups.
- Children with ID of known genetic aetiology display a wide range of seizures types (see Fig2).
- The most common seizures reported were generalised tonic seizures (n=23), absence seizures (n= 20) and febrile seizures (n = 14). Many children had multiple seizure types.

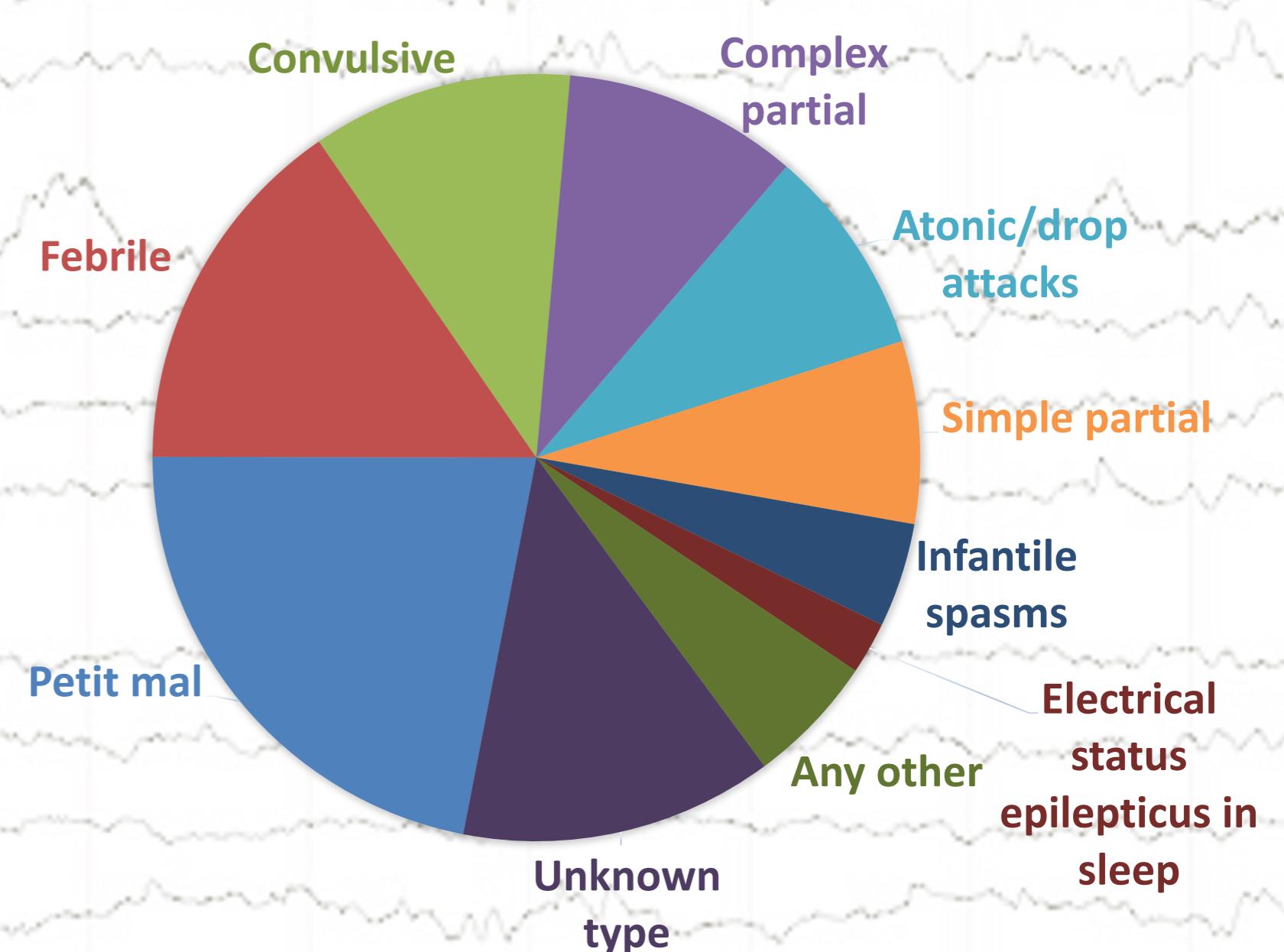


Fig2. Distribution of seizure types across children with previous history of seizure.

- Parents of children with seizures had lower EFQ scores than those of children without seizures ($p=.027$, Table 1) indicating they experienced poorer mental health and wellbeing.
- No differences in behavioural adjustment was found between groups, but mean SDQ scores (19.3 & 20) were substantially higher than in the general population of children with ID – 15.9 (8).

Group	EFQ Scores		SDQ Scores	
	Mean	SD	Mean	SD
Seizures	18	7.2	19.3	6.6
No seizures	15	7.5	20	7
P value (t-test)	0.027		0.581	

Table 1. Comparison of SDQ and EFQ scores by group.

DISCUSSION

- The emotional impact of caring is increased for parents whose intellectually disabled children have seizures, and their wellbeing is relatively impaired.
- A history of seizures is not associated with significantly more severe behavioral and emotional difficulties in children with ID of genetic origin.
- Children who have ID caused by specific CNV or SNV have substantially impaired mental health, relative to ID of unknown etiology.



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