

CHILDHOOD DISORDER

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AUTISM
ADHD
DOWN SYNDROME
DYSLEXIA
EPILEPSY



AUTISM

ASD SYMPTOMS

- Impaired social communication and interaction
 - e.g. no eye contact, facial expression
- Patterned behaviour

Also applied to diagnosis:

社交障碍 + 重复刻板行为

ASD

CAUSES

- Genetics:

1. FMR1: responsible for cognitive development
2. PTEN: produces enzyme that suppresses brain tumour
3. TSC1 & TSC2: produces protein that is responsible for cell-growth and size

(突变导致「结节性硬化症」 tuberous sclerosis)

4. NF-1: 变异导致「神经纤维瘤」 neurofibromatosis

*Between 50 to 60 percent of people with fragile X syndrome and approximately 40 percent of people with tuberous sclerosis complex have ASD

ASD TREATMENTS

- No cure
- Early intervention to improve social ability
- Cognitive Behaviour Therapy (CBT)

ADHD

ADHD SYMPTOMS

- Inattentiveness
- Hyperactivity (restless)
- Impulsive behaviour

Diagnosis (not objective): long-lasting of symptoms above

ADHD CAUSES

- Not specifically known
- Genetics
- Environment (exposure of lead Pb)
- Problems during development

ADHD TREATMENTS

- Medications
 1. Stimulants: methylphenidate 哌甲酯, amphetamine 安非他命 (在属于毒品)
 2. Non-stimulant: atomoxetine 阿托西汀, bupropion 安非他酮 (antidepressant)
- CBT

DOWN SYNDROME

DOWN SYNDROME

SYMPTOMS

- 60% abortion rate
- Low to moderate intellectual ability
- Distinctive facial features: Flattened face, Small head, Short neck, Upward slanting eyelid, Small strange ears
- 并发症: heart defects, gastrointestinal defects, immune disorders, sleep apnea, obesity, **EARLY-ONSET** of Alzheimer's Disease

DOWN SYNDROME

CAUSES

- 21号染色体 *3
- Trisomy 21 (in 95% cases)
- Mosaic Down syndrome: only some of the cells have trisomy 21
- Translocation Down syndrome: No. 21 chromosome *2, but some genes are translocated to other chromosomes.

DOWN SYNDROME

TREATMENTS

- No cure
- Early intervention - improve life quality
- Abortion

DYSLEXIA

DYSLEXIA

SYMPTOMS

- Reading ability 
- Speaking  (trouble with pronunciation, lack of fluency, difficulty retrieving words)
- Spelling difficulty
- Hesitancy in speaking
- BUT, normal IQ

DYSLEXIA

CAUSES

- Less brain activity in the left occipitotemporal cortex, which is considered essential for skilled reading

DYSLEXIA TREATMENTS

- CBT

EPILEPSY

EPILEPSY

SYMPTOMS

- Absence / petit mal seizure: rapid blinking or a few seconds of staring into space
- Tonic-clonic / grand mal seizure: make someone fall, have muscle spasms, cry out or lose consciousness
- Focal / partial seizure: twitching or a change in sensation triggering strange smells or tastes
- Complex focal seizure: leave a person confused and unable to answer questions or follow directions
- Secondary generalised seizures: begin in one part of the brain but spread to become generalised seizure

EPILEPSY

CAUSES

- Pre-mature birth
- Brain trauma
- Abnormal development due to genetic factors

EPILEPSY TREATMENTS

- Control seizures with medication or diet
- Remove or inactivate the seizure-initiating part of the brain
- For most severe cases, cutting corpus callosum, so at least one side of the brain is functioning