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AutismCRC Biobank

Inflammation and neuromodulation in autism

Background

To improve outcomes for children and adults on the autism spectrum, we need to understand which supports work best for different subgroups of autistic individuals.

An important first step in this process is the identification of valid and reproducible subgroups in autistic populations.

How we did the research

A total of 37 variables were selected for use in our latent profile subgrouping analysis, to represent core traits of autism, in addition to co-occurring cognitive, behavioural, psychiatric and medical aspects of children's profiles.

We also examined 240 plasma samples obtained from children on the autism spectrum in the Australian Autism Biobank, in order for analyses of their inflammatory cytokine profiles to be performed.

Aim

Our first aim was to determine whether differing presentations of core traits of autism (pertaining to social communication and to restricted, repetitive, and stereotyped behaviour), in addition to differing cognitive, medical, and psychiatric profiles, could be used to distinguish subgroups of autism in the Australian Autism Biobank.

Our second aim was to assess for differences in inflammatory profiles between our identified subgroups.

Who took part

754 children on the autism spectrum

Cytokines are a category of proteins that are involved in cell signalling within the body. They are important in stimulating and modulating the immune system.

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What we found

Our study identified four subgroups of children on the autism spectrum within the Australian Autism Biobank, as summarised below.

- Fewer support needs subgroup
- Higher support needs with prominent language and cognitive challenges subgroup
- Moderate support needs with emotional challenges subgroup
- Higher support needs with prominent medical and psychiatric and comorbidity subgroup

Inflammatory profiles did not differ between these subgroups, but overall were different from previously published findings from non-autistic paediatric populations.

Who did the research

SCIENTIA MANU ET MENTE

UNSW SYDNEY

TELETHON KIDS INSTITUTE
Discover. Prevent. Cure.

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Australian Autism Biobank

The Australian Autism Biobank is Australia's largest collection of biological, behavioural, environmental and medical information of children on the autism spectrum and their families. Almost 3,000 autistic and non-autistic children and adults participated from across Australia.

The Australian Autism Biobank is an initiative of Autism CRC, which receives funding from the Australian Government.

For more information, visit **autismcrc.com.au/biobank**