SUPPLEMENTARY MATERIALS

Supplementary Table S1: PRISMA-ScR checklist ……page 2-3

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This supplementary material has been provided by the authors to give readers additional information about their work.

Supplementary Table S1. Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist.

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	Location where item is reported
TITLE			
Title	1	Identify the report as a scoping review.	Title
A			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	Abstract
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	Introduction
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	Introduction
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	Materials and Methods
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	Data Source and Search Strategy
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	Materials and Methods
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Materials and Methods
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	Materials and Methods
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	Materials and Methods
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	Materials and Methods
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Not Applicable

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	Location where item is reported
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	Prisma, Figure 1
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	Results
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Results
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Not Applicable
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Not Applicable
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Results
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	Discussion
Limitations	20	Discuss the limitations of the scoping review process.	Limitations
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	Conclusion
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	Funding

Supplementary Table S2. Characteristics of included studies.

Author	Year		Title	Study Design	Sample Size	Presence of control group
Abdallah M.W. et al.	2013		Neonatal Chemokine Levels and Risk of Autism Spectrum Disorders: Findings from a Danish Historic Birth Cohort Follow-up Study	Observational study(cohort, case–control, cross-sectional)	1100	ASD vs. frequency-matched controls
Abdallah M.W. et al.	2012		Amniotic Fluid Chemokines and Autism Spectrum Disorders: An Exploratory Study Utilizing a Danish Historic Birth Cohort	Observational study (cohort, case–control, cross-sectional)	1029	ASD vs. healthy controls
Addabbo F. et al.	2020		Anti-dopamine D2 Receptor Antibodies in Chronic Tic Disorders.	Observational study (cohort, case–control, cross-sectional)	137	no control group
Aguilar-Valles A. et al.	2020		Maternal Immune Activation and the Development of Dopaminergic Neurotransmission of the Offspring: Relevance for Schizophrenia and Other Psychoses	Literature review	N.A.	N.A.
Ahmad SA. et al.	2011		Seronegative limbic encephalitis: case report, literature review and proposed treatment algorithm.	Literature review	N.A.	N.A.
Al-Diwani A. et al.	2019		The psychopathology of NMDAR-antibody encephalitis in adults: a systematic review and phenotypic analysis of individual patient data.	Literature review	N.A.	N.A.

Al-Haddad B.J.S. et al.	2019		Long-Term Risk of Neuropsychiatric Disease after Exposure to Infection in Utero.	Descriptive study	1791520	N.A.
Anand D. et al.	2017		Attention-Deficit/Hyperactivity Disorder and Inflammation: What Does Current Knowledge Tell Us? A Systematic Review	Literature reviews	N.A.	N.A.
Bechter K. et al.	2010		Cerebrospinal fluid analysis in affective and schizophrenic spectrum disorders: identification of subgroups with immune responses and blood–CSF barrier dysfunction	Observational study (cohort, case–control, cross-sectional)	4163	affective spectrum/schizophrenic spectrum vs. healthy controls
Benmakhlouf Y. et al.	2020		Potential Cytokine Biomarkers in Intellectual Disability. Endocrine, Metabolic & Immune Disorders	Literature review	N.A.	N.A.
Benros ME. et al.	2014		A nationwide study on the risk of autoimmune diseases in individuals with a personal or a family history of schizophrenia and related psychosis.	Observational study (cohort, case–control, cross-sectional)	181692	schizophrenia-like psychosis vs. autoimmune disease
Benros ME. et al.	2011		Autoimmune diseases and severe infections as risk factors for schizophrenia: a 30-year population-based register study.	Descriptive study	356757	no control group
Benros ME. et al.	2013		Autoimmune diseases and severe infections as risk factors for mood disorders: a nationwide study.	Descriptive study	3.56 million	no control group
Berloffa S. et al.	2023		Steroid treatment response to post SARS-CoV-2 PANS symptoms: Case series.	Descriptive study	10	no control group
Bjørklund G. et al.	2016		Immune Dysfunction and Neuroinflammation in Autism Spectrum Disorder	Literature review	N.A.	N.A.

Bos-Veneman N.G.P. et al.	2011		Altered Immunoglobulin Profiles in Children with Tourette Syndrome	Observational study (cohort, case–control, cross-sectional)	148	Ts/tic vs. healthy controls
Brown A.S. et al.	2015		Maternal Thyroid Autoantibody and Elevated Risk of Autism in a National Birth Cohort	Observational study (cohort, case–control, cross-sectional)	1920	ASD vs. without ASD or severe/profound intellectual disability
Brynge M. et al.	2022		Maternal Infection during Pregnancy and Likelihood of Autism and Intellectual Disability in Children in Sweden: A Negative Control and Sibling Comparison Cohort Study.	Observational study (cohort, case–control, cross-sectional)	549967	maternal infection during pregnancy vs. negative control exposure
Buske-Kirschbaum A. et al.	2013		Psychoendocrine and Psychoneuroimmunological Mechanisms in the Comorbidity of Atopic Eczema and ADHD.	Literature review	N.A.	N.A.
Cabrera B. et al.	2019		Neuroanatomical features and its usefulness in classification of patients with PANDAS.	Observational study (cohort, case–control, cross-sectional)	28	patients with PANDAS vs. healthy subjects
Cainelli E. et al.	2019		Neuropsychological and psychopathological profile of anti-NMDAR encephalitis: a possible pathophysiological model for pediatric neuropsychiatric disorders.	Observational study (cohort, case–control, cross-sectional)	7	no control group
CaiXiao JJ. et al.	2018		Association between TNF-α-238G/A gene polymorphism and OCD susceptibility: a meta-analysis.	Literature review	N.A.	N.A.
Calaprice D. et al.	2017		. A survey of pediatric acute-onset neuropsychiatric syndrome characteristics and course.	Descriptive study	698	no control group

Chain JL. et al.	2020		Autoantibody Biomarkers for Basal Ganglia Encephalitis in Sydenham Chorea and Pediatric Autoimmune Neuropsychiatric Disorder Associated With Streptococcal Infections.	Observational study (cohort, case–control, cross-sectional)	96	PANDAS and Sydenham Chorea vs. healthy controls
Chan A. et al.	2022		Children With PANS May Manifest POTS.	Observational study (cohort, case–control, cross-sectional)	204	no control group
Chan A. et al.	2020		Familial Clustering of Immune-Mediated Diseases in Children with Abrupt-Onset Obsessive Compulsive Disorder	Observational study (cohort, case–control, cross-sectional)	365	OCD and immune-mediated comorbidities in first-degree family members of patients and healthy controls
Chang K. et al.	2015		Clinical evaluation of youth with pediatric acute-onset neuropsychiatric syndrome (PANS): recommendations from the 2013 PANS Consensus Conference.	Technical reports, theses, conference proceedings, book chapter	N.A.	N.A.
Chi S.H. et al.	2023		Cytokine Levels Reflect Tic Symptoms More Prominently during Mild Phases.	Observational study (cohort, case–control, cross-sectional)	66	TIC disorder vs. healthy controls
Cieślik M. et al.	2020		Maternal Immune Activation Induces Neuroinflammation and Cortical Synaptic Deficits in the Adolescent Rat Offspring	Observational study (cohort, case–control, cross-sectional)	37	LPS-treated dams vs. control
Congiu P. et al.	2024		REM sleep atonia in patients with pediatric acute-onset neuropsychiatric syndrome: implications for pathophysiology.	Observational study (cohort, case–control, cross-sectional)	113	pediatric acute-onset neuropsychiatric syndrome vs. healthy controls

Corona J.C. et al.	2020		Role of Oxidative Stress and Neuroinflammation in Attention-Deficit/Hyperactivity Disorder	Literature review	N.A.	N.A.
Croen L. et al.	2024		Inflammatory Conditions during Pregnancy and Risk of Autism and Other Neurodevelopmental Disorders.	Observational study (cohort, case–control, cross-sectional)	2569	ASD and DDs vs. healthy controls
Dale R.C. et al.	2012		Antibodies to Surface Dopamine-2 Receptor in Autoimmune Movement and Psychiatric Disorders.	Observational study (cohort, case–control, cross-sectional)	113	Basal ganglia encephalitis vs. Sydenham's chorea vs. PANDAS vs. Ts
De Carvalho JF. et al.	2020		Sjögren syndrome associated with obsessive-compulsive disorder	Literature review	N.A.	N.A.
De Giacomo A. et al.	2021		B and T Immunoregulation: A New Insight of B Regulatory Lymphocytes in Autism Spectrum Disorder	Observational study (cohort, case–control, cross-sectional)	42	ASD vs. healthy controls
Donfrancesco R. et al.	2020		Anti-Yo Antibodies in Children with ADHD: First Results about Serum Cytokines	Observational study (cohort, case–control, cross-sectional)	94	ADHD vs. healthy controls
Dunleavy C. et al	2022		Inflammation in first-episode psychosis: the contribution of inflammatory biomarkers to the emergence of negative symptoms, a systematic review and meta-analysis.	Literature review	N.A.	N.A.
Dunn G. et al.	2019		Neuroinflammation as a Risk Factor for Attention Deficit Hyperactivity Disorder	Literature review	N.A.	N.A.
Eaton WW. et al.	2006		Association of schizophrenia and autoimmune diseases: linkage of Danish national registers	Comparative study	200294	schizophrenia patients vs. healthy controls
Elamin I. et al.	2013		Immune Dysfunction in Tourette Syndrome.	Literature review	N.A.	N.A.

Endres D. et al.	2022		Immunological causes of obsessive-compulsive disorder: is it time for the concept of an "autoimmune OCD" subtype?	Literature review	N.A.	N.A.
Endres D. et al.	2015		Immunological findings in psychotic syndromes: a tertiary care hospital's CSF sample of 180 patients.	Descriptive study	180	N.A.
Fasmer O.B. et al.	2011		Adult attention deficit hyperactivity disorder Is Associated with Asthma.	Observational study (cohort, case–control, cross-sectional)	1313	ADHD vs. healthy control
Foroughipour M. et al.	2012		Frequency of obsessive-compulsive disorder in patients with multiple sclerosis: a cross-sectional study.	Observational study (cohort, case–control, cross-sectional)	112	no control group
Frankovich J. et al.	2015		Multidisciplinary clinic dedicated to treating youth with pediatric acute-onset neuropsychiatric syndrome: presenting characteristics of the first 47 consecutive patients.	Descriptive study	47	N.A.
Frick L. et al.	2016		Microglial dysregulation in OCD, Tourette syndrome, and PANDAS.	Literature review	N.A.	N.A.
Frick L. R. et al.	2018		Differential binding of antibodies in PANDAS patients to cholinergic interneurons in the striatum.	Randomized controlled trial (RCT)	35	PANDAS vs. healthy control
Gagliano A. et al.	2021		Artificial neural networks analysis of polysomnographic and clinical features in pediatric acute-onset neuropsychiatric syndrome (PANS): from sleep alteration to ..	Descriptive study	23	N.A.
Gallego JA. et al.	2018		Cytokines in cerebrospinal fluid of patients with schizophrenia spectrum disorders: new data and an updated meta-analysis.	Literature review	N.A.	N.A.

Gaughan T. et al.	2016		Rapid Eye Movement Sleep Abnormalities in Children with Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS).	Descriptive study	15	N.A.
Geller H. et al.	2021		6.34 Comparison of Primary Humoral Immunodeficiencies in Autism Spectrum Disorder (ASD) and Other Pediatric-Onset Psychiatric Disorders	Technical reports, theses, conference proceedings, book chapter	N.A.	N.A.
Gerentes M. et al.	2019		Obsessive-compulsive disorder: autoimmunity and neuroinflammation.	Literature review	N.A.	N.A.
Giana G.et al.	2015		Detection of Auto-Antibodies to DAT in the serum: Interactions with DAT Genotype and psycho-stimulant therapy for ADHD.	Descriptive study	38	ADHD vs. healthy controls
Giedd JN. et al.	2000		MRI assessment of children with obsessive-compulsive disorder or tics associated with streptococcal infection.	Descriptive study	116	OCD/TIC vs. healthy controls
Girgis RR. et al.	2018		A randomized, double-blind, placebo-controlled clinical trial of tocilizumab, an interleukin-6 receptor antibody, for residual symptoms in schizophrenia.	Randomized controlled trial (RCT)	36	TCZ vs. placebo
Giri YR. et al.	2021		Anti-N-methyl-D-aspartate receptor (NMDAR) encephalitis in children and adolescents: a systematic review and quantitative analysis of reported cases.	Literature review	N.A.	N.A.
Gładysz D. et al.	2018		Immune Abnormalities in Autism Spectrum Disorder—Could They Hold Promise for Causative Treatment?	Literature review	N.A.	N.A.

Goldsmith DR. et al.	2016		A meta-analysis of blood cytokine network alterations in psychiatric patients: comparisons between schizophrenia, bipolar disorder and depression.	Literature review	N.A.	N.A.
Graham A.M. et al.	2018		Maternal Systemic Interleukin-6 During Pregnancy Is Associated with Newborn Amygdala Phenotypes and Subsequent Behavior at 2-Years-of-Age.	Observational study (cohort, case–control, cross-sectional)	86	no control group
Graus F. et al.	2016		A clinical approach to diagnosis of autoimmune encephalitis.	Literature review	N.A.	N.A.
Gray SM. et al.	2012		Systematic review of proinflammatory cytokines in obsessive-compulsive disorder.	Literature review	N.A.	N.A.
Gromark C. et al.	2019		Establishing a pediatric acute-onset neuropsychiatric syndrome clinic: Baseline clinical features of the pediatric acute-onset neuropsychiatric syndrome cohort at Karolinska Institutet	Observational study (cohort, case–control, cross-sectional)	45	no control group
Gromark C. et al.	2022		A two-to-five year follow-up of a pediatric acute-onset neuropsychiatric syndrome cohort.	Observational study (cohort, case–control, cross-sectional)	34	no control group
Han V.X. et al.	2021		Maternal Immune Activation and Neuroinflammation in Human Neurodevelopmental Disorders.	Literature review	N.A.	N.A.
Hardy D.	2022		Autoimmune encephalitis in children	Literature review	N.A.	N.A.
Harris J.	2006		Intellectual Disability: Understanding Its Development, Causes, Classification, Evaluation, and Treatment.	Technical reports, theses, conference proceedings, book chapter	N.A.	N.A.

Hegvik T.A. et al	2018		Associations between attention-deficit/hyperactivity disorder and autoimmune diseases are modified by sex: a population-based cross-sectional study	Observational study (cohort, case–control, cross-sectional)	2500118	ADHD vs. healthy controls
Hegvik T.A. et al.	2022		Familial Co-Aggregation of attention-deficit/hyperactivity disorder and Autoimmune Diseases: A Cohort Study based on Swedish population-wide registers	Observational study (cohort, case–control, cross-sectional)	5178225	ADHD vs. healthy controls
Heuer L.S. et al.	2019		An Exploratory Examination of Neonatal Cytokines and Chemokines as Predictors of Autism Risk: The Early Markers for Autism Study.	Observational study (cohort, case–control, cross-sectional)	888	ASD/ID vs. healthy controls
Hu C. et al.	2022		Microglia: Synaptic Modulator in Autism Spectrum Disorder	Literature review	N.A.	N.A.
Huang X.et al.	2021		Peripheral Inflammation and Blood–Brain Barrier Disruption: Effects and Mechanisms	Literature review	N.A.	N.A.
Hughes H.K. et al.	2023		Innate Immune Dysfunction and Neuroinflammation in Autism Spectrum Disorder (ASD).	Literature review	N.A.	N.A.
Instanes J.T. et al.	2017		Attention-deficit/hyperactivity disorder in Offspring of Mothers with Inflammatory and Immune system Diseases.	Observational study (cohort, case–control, cross-sectional)	2322657	ADHD vs. healthy controls
Jellinger K.A.	2019		Neuropathology and Pathogenesis of Extrapyramidal Movement Disorders: A Critical Update. II. Hyperkinetic Disorders	Literature review	N.A.	N.A.
Johnson M. et al.	2019		Paediatric acute-onset neuropsychiatric syndrome in children and adolescents: an observational cohort study	Observational study (cohort, case–control, cross-sectional)	415	no control group

Jones K.L. et al.	2017		Autism with Intellectual Disability Is Associated with Increased Levels of Maternal Cytokines and Chemokines during Gestation	Descriptive study	1031	ASD/DDs vs. healthy controls
Kalinowski A. et al.	2023		Evaluation of C4 gene copy number in Pediatric Acute Neuropsychiatric Syndrome	Descriptive study	303	PANS vs. healthy controls
Kawikova I. et al.	2007		Decreased Numbers of Regulatory T Cells Suggest Impaired Immune Tolerance in Children with Tourette Syndrome: A Preliminary Study	Descriptive study	46	TC/OCD/TIC+OCD vs. healthy controls
Kayser MS. et al.	2016		Anti-NMDA receptor encephalitis, autoimmunity, and psychosis.	Literature review	N.A.	N.A.
Keski-Rahkonen A. et al.	2023		Avoidant-Restrictive Food Intake Disorder and Autism: Epidemiology, Etiology, Complications, Treatment, and Outcome	Literature review	N.A.	N.A.
Keszler G. et al.	2014		Association of the Tumor Necrosis Factor -308 A/G Promoter Polymorphism with Tourette Syndrome	Descriptive study	1004	ADHD/OCD/TS/Tic vs. healthy controls
Khandaker GM. et al.	2014		Association of serum interleukin 6 and C-reactive protein in childhood with depression and psychosis in young adult life: a population-based longitudinal study	Observational study (cohort, case–control, cross-sectional)	4415	no control group
Krakowiak P. et al.	2017		Neonatal Cytokine Profiles Associated with Autism Spectrum Disorder	Observational study (cohort, case–control, cross-sectional)	N.A.	N.A.

Kumar A. et al.	2015		Evaluation of Basal Ganglia and Thalamic Inflammation in Children With Pediatric Autoimmune Neuropsychiatric Disorders Associated With Streptococcal Infection and Tourette Syndrome: A Positron Emission Tomographic (PET) Study Using 11C-[R]-PK11195	Descriptive study	44	PANDAS/TS vs. healthy controls
Lampiasi N. et al.	2023		Inflammation and the Potential Implication of Macrophage-Microglia Polarization in Human ASD: An Overview	Literature review	N.A.	N.A.
Leckman J.F. et al.	2005		Increased Serum Levels of Interleukin-12 and Tumor Necrosis Factor-Alpha in Tourette's Syndrome	Randomized controlled trial (RCT)	77	TS vs. healthy controls
Leffa D. et al.	2019		A Review on the Role of Inflammation in attention-deficit/hyperactivity disorder	Literature review	N.A.	N.A.
Leonardi L. et al.	2024		Pediatric acute-onset neuropsychiatric syndrome (PANS) and pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS): immunological features underpinning controversial entities.	Literature review	N.A.	N.A.
Li D.J. et al.	2022		Associations between Allergic and Autoimmune Diseases with autism spectrum disorder and attention-deficit/hyperactivity disorder within Families: a population-based cohort study	Observational study (cohort, case–control, cross-sectional)	1386260	no control group
Li Y. et al.	2022		Profiles of Proinflammatory Cytokines and T Cells in Patients With Tourette Syndrome: A Meta-Analysis	Literature review	N.A.	N.A.

Liao T.C. et al.	2016		Comorbidity of Atopic Disorders with autism spectrum disorder and attention deficit/hyperactivity disorder	Observational study (cohort, case–control, cross-sectional)	774524	ASD/ADHD vs. healthy controls
Lim M. et al.	2023		PANDAS/PANS in the COVID-19 age: Autoimmunity and Epstein–Barr virus reactivation as trigger agents?	Literature review	N.A.	N.A.
Lin Y.T. et al.	2016		Associations between Allergic Diseases and attention deficit hyperactivity/oppositional defiant disorders in Children	Descriptive study	2896	N.A.
Ma M. et al.	2024		Development of Autoimmune Diseases Among Children With Pediatric Acute-Onset Neuropsychiatric Syndrome.	Observational study (cohort, case–control, cross-sectional)	193	no control group
Madra M. et al.	2020		Gastrointestinal Issues and Autism Spectrum Disorder.	Literature review	N.A.	N.A.
Martino D. et al.	2015		The Role of Immune Mechanisms in Tourette Syndrome.	Literature review	N.A.	N.A.
Mataix-Cols D. et al.	2018		A Total-Population Multigenerational Family Clustering Study of Autoimmune Diseases in Obsessive–Compulsive Disorder and Tourette's/Chronic Tic Disorders.	Observational study (cohort, case–control, cross-sectional)	37361	OCD vs. healthy controls
McKeon A. et al.	2020		Autoimmune psychosis.	Technical reports, theses, conference proceedings, book chapter	N.A.	N.A.
Mekori-Domachevs.ky E. et al.	2017		Elevated Proinflammatory Markers in 22q11.2 Deletion Syndrome Are Associated with Psychosis and Cognitive Deficits.	Descriptive study	79	Down Syndrome vs. healthy controls

Melamed I. et al.	2024		IVIG response in pediatric acute-onset neuropsychiatric syndrome correlates with reduction in pro-inflammatory monocytes and neuropsychiatric measures.	Descriptive study	10	N.A.
Metcalf SA. et al.	2017		Serum C-reactive protein in adolescence and risk of schizophrenia in adulthood: a prospective birth cohort study.	Observational study (cohort, case–control, cross-sectional)	6362	no control group
Miller B.J. et al.	2011		Meta-Analysis of Cytokine Alterations in Schizophrenia: Clinical Status and Antipsychotic Effects.	Technical reports, theses, conference proceedings, book chapter	N.A	N.A.
Murphy TK. et al.	2013		Tonsillectomies and adenoidectomies do not prevent the onset of pediatric autoimmune neuropsychiatric disorder associated with group A streptococcus.	Randomized controlled trial (RCT)	108	PANS vs. healthy controls
Murphy TK. et al.	2012		Clinical factors associated with pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections.	Descriptive study	109	N.A.
Najjar S. et al.	2018		A clinical approach to new-onset psychosis associated with immune dysregulation: the concept of autoimmune psychosis.	Theoretical or conceptual paper	N.A.	N.A.
Nayak U. et al.	2025		Impact of neuroinflammation on brain glutamate and dopamine signalling in schizophrenia: an update.	Literature review	N.A.	N.A.

Nielsen T.C. et al.	2022		Association of Maternal Autoimmune Disease and Early Childhood Infections with Offspring Autism Spectrum Disorder: A Population-Based Cohort Study.	Observational study (cohort, case–control, cross-sectional)	55353	children exposed to maternal autoimmune disease vs. unexposed children
O'Loughlin E. et al.	2017		Acute in Utero Exposure to Lipopolysaccharide Induces Inflammation in the Pre- and Postnatal Brain and Alters the Glial Cytoarchitecture in the Developing Amygdala	Observational study (cohort, case–control, cross-sectional)	N.A.	no control group
Oades R.D. et al.	2010		Attention-Deficit Hyperactivity Disorder (ADHD) and Glial Integrity: S100B, Cytokines and Kynurenine Metabolism—Effects of Medication	Observational study (cohort, case–control, cross-sectional)	63	ADHD vs. healthy controls
Orlovs.ka S. et al.	2017		Association of streptococcal throat infection with mental disorders: testing key aspects of the PANDAS hypothesis in a nationwide study.	Observational study (cohort, case–control, cross-sectional)	349982	no control group
Oskvig D.B. et al.	2012		Maternal Immune Activation by LPS Selectively Alters Specific Gene Expression Profiles of Interneuron Migration and Oxidative Stress in the Fetus without Triggering a fetal immune Response	Descriptive study	34	maternal immune activation vs. healthy controls
Pavone P. et al.	2020		Severe psychotic symptoms in youth with PANS/PANDAS: case-series.	Observational study (cohort, case–control, cross-sectional)	8	no control group
Pearlman DM. et al.	2014		Anti-basal ganglia antibodies in primary obsessive-compulsive disorder: systematic review and meta-analysis.	Literature review	N.A.	N.A.

Pohlman D.	2018		PANDAS Network: PN 2018 State of Our Children SURVEY	Technical reports, theses, conference proceedings, book chapter	N.A.	N.A.
Pollak T. et al.	2018		The blood–brain barrier in psychosis.	Literature review	N.A.	N.A.
Pollak T. et al.	2020		Autoimmune psychosis: an international consensus on an approach to the diagnosis and management of psychosis of suspected autoimmune origin.	Theoretical or conceptual paper	N.A.	N.A.
Rezaeinejad M. et al.	2023		The Association between Maternal Infection and Intellectual Disability in Children: A Systematic Review and Meta-Analysis.	Literature review	N.A.	N.A.
Robbins TW. et al.	2019		Obsessive-compulsive disorder: puzzles and prospects	Literature review	N.A.	N.A.
Robertson M.M. et al.	2017		Gilles de la Tourette Syndrome.	Literature review	N.A.	N.A.
Rodriguez J.I. et al.	2011		Evidence of Microglial Activation in Autism and Its Possible Role in Brain Underconnectivity	Literature review	N.A.	N.A.
Rodriguez N. et al.	2019		Human-leukocyte antigen class II genes in early-onset obsessive-compulsive disorder.	Descriptive study	144	N.A.
Rosenberg J.B. et al.	2024		Maternal Inflammation during Pregnancy Is Associated with Risk of ADHD in Children at Age 10.	Observational study (cohort, case–control, cross-sectional)	604	ADHD vs. healthy controls
Rudolph M.D. et al.	2018		Maternal IL-6 during Pregnancy Can Be Estimated from Newborn Brain Connectivity and Predicts Future Working Memory in Offspring	Descriptive study	84	N.A.
Ruscio AM. et al.	2010		The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication	Descriptive study	2073	N.A.

Saini T. et al.	2025		New-onset OCD and juvenile enthesitis-related arthritis after COVID-19 (Three Cases).	Observational study (cohort, case–control, cross-sectional)	3	no control group
Santoro JD. et al.	2018		Continued Presence of Period Limb Movements During REM Sleep in Patients With Chronic Static Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS).	Descriptive study	9	N.A.
Segman R.H. et al.	2002		Preferential Transmission of interleukin-1 Receptor Antagonist Alleles in attention deficit hyperactivity disorder.	Descriptive study	85	N.A.
Silverman M. et al.	2019		Psychotic symptoms in youth with Pediatric Acute-onset Neuropsychiatric Syndrome (PANS) may reflect syndrome severity and heterogeneity.	Descriptive study	143	N.A.
Snider LA. et al.	2004		PANDAS: current status and directions for research.	Literature review	N.A.	N.A.
Stagi S. et al.	2014		Evaluation of autoimmune phenomena in patients with pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS)	Literature review	N.A.	N.A.
Subeh GK. et al.	2021		Anti-N-methyl-D-aspartate receptor encephalitis: a detailed review of the different psychiatric presentations and red flags to look for in suspected cases.	Literature review	N.A.	N.A.

Swedo S.E. et al.	1998		Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections: Clinical Description of the First 50 Cases. Obsessive-Compulsive Disorder and Tourette's Syndrome	Descriptive study	50	N.A.
Swedo SE. et al.	2012		From research subgroup to clinical syndrome: modifying the PANDAS criteria to describe PANS (Pediatric Acute-Onset Neuropsychiatric Syndrome).	Theoretical or conceptual paper	N.A.	N.A.
Tamouza R. et al.	2021		Understanding the genetic contribution of the human leukocyte antigen system to common major psychiatric disorders in a world pandemic context.	Literature review	N.A.	N.A.
Tao Y. et al.	2022		Changes of Cytokines in Children With Tic Disorder.	Randomized controlled trial (RCT)	2274	Tic vs. healthy controls
Than U.T.T. et al.	2023		Inflammatory Mediators Drive Neuroinflammation in Autism Spectrum Disorder and Cerebral Palsy	Observational study (cohort, case–control, cross-sectional)	62	no control group
Thomas F. et al.	2025		IL-17 in serum and cerebrospinal fluid of pediatric patients with acute neuropsychiatric disorders: Implications for PANDAS and PANS	Observational study (cohort, case–control, cross-sectional)	58	no control group
Toto M. et al.	2015		Antibasal Ganglia Antibodies and Antistreptolysin O in Noncomorbid ADHD	Observational study (cohort, case–control, cross-sectional)	40	ADHD vs. healthy controls
Trépanier MO. Et al.	2016		Postmortem evidence of cerebral inflammation in schizophrenia: a systematic review.	Literature review	N.A.	N.A.

Trifiletti R. et al.	2022		Identification of Ultra-Rare Genetic Variants in Pediatric Acute Onset Neuropsychiatric Syndrome (PANS) by Exome and Whole Genome Sequencing	Observational study (cohort, case–control, cross-sectional)	646	PANS vs. healthy controls
Tsetsos F. et al.	2021		Synaptic Processes and Immune-Related Pathways Implicated in Tourette Syndrome.	Observational study (cohort, case–control, cross-sectional)	7682	no control group
Tylee D.S. et al.	2018		Genetic Correlations among Psychiatric and Immune-related Phenotypes Based on Genome-wide Association Data.	Literature review	N.A.	N.A.
Upthegrove R. et al.	2014		Cytokine function in medication-naive first-episode psychosis: a systematic review and meta-analysis.	Literature review	N.A.	N.A.
Usui N. et al.	2023		Neuroinflammation and Oxidative Stress in the Pathogenesis of Autism Spectrum Disorder	Literature review	N.A.	N.A.
van Kesteren CF. et al.	2017		Immune involvement in the pathogenesis of schizophrenia: a meta-analysis on postmortem brain studies.	Literature review	N.A.	N.A.
Vargas D.L. et al.	2005		Neuroglial Activation and Neuroinflammation in the Brain of Patients with Autism	Observational study (cohort, case–control, cross-sectional)	17	ASD vs. healthy controls
Vázquez-González D. et al.	2023		A Potential Role for Neuroinflammation in ADHD	Literature review	N.A.	N.A.
Villarreal V.R. et al.	2024		Risk of Autoimmune Disease in Research-Identified Cases of Autism Spectrum Disorder: A Longitudinal, Population-Based Birth Cohort Study.	Observational study (cohort, case–control, cross-sectional)	3042	ASD vs. healthy controls

Voineagu I. et al.	2011		Transcriptomic Analysis of Autistic Brain Reveals Convergent Molecular Pathology.	Observational study (cohort, case–control, cross-sectional)	36	ASD vs. healthy controls
Wang LY. et al.	2019		Systemic autoimmune diseases are associated with an increased risk of obsessive-compulsive disorder: a nationwide population-based cohort study.	Observational study (cohort, case–control, cross-sectional)	378990	SADs or without SADs
Weidinger E. et al.	2014		Impaired Activation of the Innate Immune Response to Bacterial Challenge in Tourette Syndrome.	Observational study (cohort, case–control, cross-sectional)	64	Ts vs. healthy controls
Williams KA. et al.	2016		Randomized, controlled trial of intravenous immunoglobulin for pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections.	Randomized controlled trial (RCT)	35	PANDAS vs. healthy controls
Xiong Y. et al.	2023		Microglia and Astrocytes Underlie Neuroinflammation and Synaptic Susceptibility in Autism Spectrum Disorder	Literature review	N.A.	N.A.
Xu J. et al.	2021		Antibodies from children with PANDAS bind specifically to striatal cholinergic interneurons and alter their activity.	Observational study (cohort, case–control, cross-sectional)	50	PANDAS vs. healthy controls
Xu J. et al.	2022		Elevated antibody binding to striatal cholinergic interneurons in patients with pediatric acute-onset neuropsychiatric syndrome	Observational study (cohort, case–control, cross-sectional)	50	PANS vs. healthy controls
Yolken RH. et al.	2008		Are some cases of psychosis caused by microbial agents? A review of the evidence.	Literature review	N.A.	N.A.

Zebrack JE. et al.	2025		Neurological Soft Signs at Presentation in Patients With Pediatric Acute-Onset Neuropsychiatric Syndrome.	Observational study (cohort, case–control, cross-sectional)	119	no control group
Zerbo O. et al.	2015		Immune Mediated Conditions in Autism Spectrum Disorders.	Observational study (cohort, case–control, cross-sectional)	33390	ASD vs. healthy controls
Zhang F. et al.	2025		Blood–Brain Barrier Disruption in Schizophrenia: Insights, Mechanisms, and Future Directions	Literature review	N.A.	N.A.
Zhang T. et al.	2023		Prenatal and early childhood infections and subsequent risk of obsessive-compulsive disorder and tic disorders: a nationwide, sibling-controlled study.	Observational study (cohort, case–control, cross-sectional)	281089	individuals exposed to any prenatal maternal infection vs. siblings to control for familial confounding
Zheng J. et al.	2020		Association of Pediatric Acute-Onset Neuropsychiatric Syndrome With Microstructural Differences in Brain Regions Detected via Diffusion-Weighted Magnetic Resonance Imaging.	Observational study (cohort, case–control, cross-sectional)	98	PANS vs. healthy controls

Legend: ASD = autism spectrum disorder; ADHD = attention deficit/hyperactivity disorder; ID = intellectual disability; DDs = developmental disorders; N.A. = not applicable; OCD = obsessive–compulsive disorder; TCZ= Tocilizumab; PANDAS= Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections; PANS= Pediatric Acute-Onset Neuropsychiatric Syndrome; TS= Tourette syndrome