

**Methods:** 53 ADHD children were divided into three subgroups, including 18 ADHD-Combined type(ADHD-C), 20 ADHD-Predominantly inattention type(ADHD-I) and 15 ADHD-Predominantly hyperactive-impulsive type (ADHD-HI), and 18 normal controls were recruited. Blood was taken to measure the serum levels of SF, BP and hemoglobin.

**Results:**

1. The levels of serum ferritin in ADHD subtype groups were lower than those in control group ( $P < 0.05$ ), and the levels of serum ferritin in ADHD-I were obviously lower than those in ADHD-C and ADHD-HI.

2. There were no significant differences in the levels of blood lead among the three subtypes of ADHD and control group ( $p > 0.05$ )

3. There were no significant differences in the levels of hemoglobin among the three subtypes of ADHD and control group ( $p > 0.05$ ).

**Conclusion:** The serum ferritin Levels of ADHD children are lower than those of normal children, especially in the subgroup of ADHD-I.

669

**SLEEP DISORDERS IN DEVELOPMENTALLY DISABLED CHILDREN - LITERATURE REVIEW**

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**Aim:** To find evidence for an association between sleep disorders and neurobehavioral and neurocognitive conditions of children.

**Methods:** Extensive review of a broad range of psychiatric and neurodevelopment disorders taken by way of literature review to include original research articles, review articles, case series, special articles, reviews and short commentaries.

**Results/Conclusions:** Debilitating childhood developmental disorders are common. Associated demanding mannerisms are common, including sleep problems. This in turn is then linked to daytime performance issues, reduced developmental and academic growth, and considerable familial psychopathology. Social and behavioural measures have, to a degree, reformed management; nevertheless, a lot of children continue to have sleep-

related disorders. For that reason contemporary medications have an important complementary role in addition to psychosomatic, educational and social strategies. This literature review looks into the substantiation of the occurrence and severity of sleep problems in children with severe neurodevelopmental disorders. We also looked into the probable advantages of using medication, mainly focussing on the significance of melatonin as a sleep inducer.

The broad range of psychiatric and neurodevelopment disorders taken in this extensive literature review include original research articles, review articles, case series, special articles, reviews and short commentaries. These articles provide evidence for an association between sleep disorders and neurobehavioral and neurocognitive conditions of children.

670

**MALE VS FEMALE: STRUCTURAL SUSCEPTIBILITY TO NEUROINFLAMMATION.**

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**Introduction:** A causation model for Autistic Spectrum Disorder (ASD) has not yet been firmly established. Characterised by a triad of impairments in social skills, verbal communication and behaviour, the condition has been heavily linked to the male sex with some studies suggesting that the ratio is as high as 4:1. Here we analyse the structure of unaffected male and female brains demonstrating how their differences could be key to understanding the pathological mechanism underpinning the disorder.

**Methods:** Using ICD-10 and DSM-IV classifications we review the diagnostic characteristics which compound the condition and confirm the functional centres where these problems arise.

**Results:** We have been able to review the current understanding of brain mapping and demonstrate that the female brain has a more robust network in the functional areas associated with autism and can therefore provide some resistance to the neuroinflammatory component of the condition.

**Conclusions:** This series of data has demonstrated that the male brain may be more susceptible to

the neuroinflammatory component of autism. Neuroimaging of intranetworking connections has rapidly gained momentum within the field and an understanding of not only how they function as a unit but also how the innate anatomy can endure stress could play a vital role in identifying a therapeutic agent for the condition.

671

**BEHAVIOURAL, STRUCTURAL AND CHEMICAL CHANGES SURROUNDING BRAIN INFLAMMATION; THE COMMON PATHWAY UNDERLYING AUTISM**

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**Introduction:** A causation model for Autistic Spectrum Disorder (ASD) has not yet been firmly established. Characterised by a triad of impairments in social skills, verbal communication and behaviour, the condition has been recognised as having a strong inflammatory component. Historically, the functional anatomy of the prefrontal cortex is well defined and its dysfunction in autism spectrum disorders has lead to the proposal of a number of psychological models identifying the impact of under development within the condition. However, only recently have we begun to understand the structural and molecular implications underpinning the disease.

**Methods:** Using ICD-10 and DSM-IV classifications we review the diagnostic characteristics which compound the condition together with the current thinking on the roles of cytokines such as IL-1 $\alpha$ , IL-1 $\beta$ , IL-6 and TNF- $\alpha$ , their effect on intracellular signaling cascades and ultimately their effect on cell ultrastructure.

**Results:** Here we collaborate the current understanding of a novel autistic triad consisting of the behavioural, chemical and ultrastructural balances in the autistic brain. We demonstrate how they interact, concluding that these details are neither mutually exclusive nor mutually independent.

**Conclusions:** This model for autistic spectrum disorder demonstrates the requirement for a multidisciplinary approach to the treatment of

the condition and hope that the integration of this hypothesis will assist in the development of both diagnostic and therapeutic advances.

672

**AN AUDIT OF THE MANAGEMENT OF A FIRST AFEBRILE SEIZURE IN CHILDHOOD**

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**Objective:** To compare the management of first afebrile seizures with internationally recognized standards in an Irish tertiary paediatric setting.

**Methods:** Records of first afebrile seizure presenting to a Paediatric Emergency Department period between June 2007 and December 2008 were identified through interrogation of emergency department admission books and Paediatric ward ledgers. Management standards were devised from a compilation of British (NICE 2004) and North American (AAN 2003) guidelines. The standards comprised 3 principle areas: (i) the medical record and seizure documentation (ii) investigations recorded and (iii) documentation of management at discharge. Complete concordance with the standards would accrue a score of 21/21. Relevant patient charts were reviewed, assessing medical and nursing notes.

**Summary:** 26 children were identified over the 18 month period, 13 boys and 13 girls (age range from 1 month to 13 years). No case achieved full concordance with the devised standards. The average score was (13) 50% with a range from 5 (19%) to 17 (65%). Seizures were well documented 75% but compliance with guidelines on investigation of the first afebrile seizure in childhood was poor 63%.

**Conclusion:** Presentation with first afebrile seizures is common in childhood. We have demonstrated a lack of concordance with international guidelines on management of the first afebrile seizure in our institution. We now intend to provide further guidance on this topic and introduce an information pack at discharge before repeating the audit cycle.