

ADHD – A PERSPECTIVE FOR FURTHER WORK

ADHD is the most prevalent child syndrome in school accounting for 1 in 20 children (between 5-16% according to Health and Wellness Commission 2018) and accounts for 18% of all paediatric specialist visits and is a major contributor of failing education for this sector of school aged children (4-12 years)

The following is an excerpt from the Productivity Commission Submission 2020 on ADHD.

A substantial literature review by Sciberras et al (2013) vi demonstrated that both boys and girls with ADHD are at risk for a range of poorer outcomes in adolescence and adulthood.

In addition to behavioural issues, substance abuse, mood and anxiety disorders, these include poor educational, social and occupational outcomes.

The parents of children with ADHD also have poorer outcomes over time, including increased psychological stress and poorer family functioning than parents of non-ADHD children.

Sciberras et al also noted that ADHD symptoms persist into adolescence and adulthood for approximately 50% of those diagnosed with ADHD.

Although there may be a decline in ADHD symptoms as children progress into adolescence and adulthood, the impairments associated with the disorders tend to persist.

Feedback from parents and students with ADHD highlights the lack of understanding of ADHD by teachers and principals in NSW schools; the lack of resources, support, programs, and special learning opportunities in many schools; limited and inconsistent funding of resources; the need for individualised approaches to students with ADHD; HSC exam issues; and overwhelmingly, the huge stigma attached to having ADHD.

These issues are totally at odds with obligations under the Disability Discrimination Act 1992 (DDA) and the Disability Standards for Education 2015 (DSE), not to mention the fact that Australia espouses a culture of diversity and inclusion, which is embodied into various anti-discrimination and employment related legislation. Untreated ADHD can cause lifetime impairment; however, there are effective ways of managing ADHD.

Early diagnosis and early interventions are critical. The majority parents are very committed to improving the educational, social and life outcomes for their children with ADHD.

This is evidenced by ADHD now being the most common reason for paediatrician presentations in Australia, accounting for 18% of general consultations'

There are also various other medical and clinical specialists that parents can utilise, providing they have the means to do so, and numerous ADHD support groups, many of which are local. The impact of what happens at school is incredibly far-reaching and definitive for every child, and even more so if they have ADHD. Recent research by the **Murdoch Children's Research Institute (MCRI) found that 40% of students with ADHD failed to meet the NAPLAN minimum standards in at least one academic area. In year seven, 73% of students with ADHD had problems with writing and almost 25% were below the minimum standard. In year nine, 54% had difficulties and 37.5% did not reach the minimum.**

What Do WA classroom facing Teachers Say:

ADHD in Schools summary points from discussion with 30-year tenure teachers who have seen the dramatic increase in both the presentation of the symptoms, dealing with the classroom reality and the use of Medication.

- ADHD students have a profound impact on classroom stability. Increasing unrest, in older students' violent behaviour, poor attendance and behaviour issues which disturbs the entire classroom.
- ADHD students often require medication which is not stabilised for the child. Due to being a syndrome this can lead to periods of extreme behaviours from anxiety, depression, and mood swings to suicidal thoughts and voices in the head.
- The teacher or admin services are left to administer these drugs which can be forgotten, doubled up and incorrect amounts. Neither teachers or student services are skilled or trained, nor are there systems in place to manage long term medication dispensing.
- The children often require special services, teaching methods and classroom environments to **assist in keeping up with fellow classmates which resources do not allow for.**

The population rate for females aged 85 and over filling mental health-related prescriptions (subsidised and under co-payment), was higher than all other age groups for all drug types, **except for Psychostimulants**, agents used for ADHD and nootropics where those aged 12–17 had the highest population rate. A similar pattern was seen in males except the highest population rate for *Psychostimulants, agents used for ADHD and nootropics* was for those aged 5–11. When comparing males and females, a higher proportion of males were dispensed *Psychostimulants, agents used for ADHD and nootropics*, while a higher proportion of females were dispensed *Anxiolytics, hypnotics and sedatives*, and *Antidepressants*. The rates for *Antipsychotics* were the same for males and females.

PBS ANNUAL REPORT Dept Health Canberra 2020.

PLEASE, WHEN YOU HAVE THE ROUND TABLE HAVE TEACHERS FROM WAMBRO (SECRET HARBOUR AREA), ARMIDALE, BALDIVIS, BUTLER, WANEROO, CLARKESON, AND REGIONAL SCHOOLS WHERE THE INCIDENTS ARE SAID TO BE HIGHER AND THE CLASSROOM AND SCHOOL IS SOMETIMES A WAR ZONE.

IN THESE AREAS, DUE TO THE COST OF MEDICAL TREATMENT, LOWER SOCIOECONOMIC HOUSEHOLDS AND THE INABILITY FOR THE PARENTS /GUARDIANS TO COPE THE ADHD STUDENT IS WITHOUT SERVICES SO THE TEACHERS ARE TOLD TO COPE.

I can provide pages and many reports you can read on the ADHD Australia plus government reports however since ADHD first became a syndrome in 1980, the management, and support remains the same and the results for the children remain the same except the incidents of diagnosis have increased by 20% in the last 10 years

Some thoughts to make a change.....

Currently

- Anti-Depression medication
- Potential private services (OT, Psychology, tutoring, figit toys, etc) Averaging \$400 per month for each service).
- Behaviour modification
- UWA are currently conducting research into behaviour modification for children.

According to Productivity report 2020

“What can be done now? From recent surveys undertaken by Complispace (2018), it is recognised that principals and teachers are aware of the increase incidence of mental health and learning problems in children diagnosed with ADHD, although some are unsure of how to adapt teaching approaches or curriculum to improve classroom outcomes or the future prospects for this group of students.

ADHD Australia, like many other organisations, and the wider ADHD community, eagerly await the outcome from the Government.

When the Government releases the report, the report will be available for free download from the Commission’s website and printed copies will also be available for purchase from the Commission’s publications agent.

For more information, and to read all the submissions and associated comments submitted, please visit the Productivity Commission’s website

at: <https://www.pc.gov.au/inquiries/completed/mental-health#report>”

An education program that is working and may be suitable for ADHD Education of students in WA

A changing school environment and its success by Macquarie University in NSW

[A literacy miracle: how the right school changed young Jayden's life \(essentialkids.com.au\)](https://essentialkids.com.au) June 2020.

Another Suggestion:

There is limited research funding to provide a solution rather than managing. Being a syndrome rather than a “disease” and presenting in various ways, it is often difficult to obtain research funding for a solution to the cause rather than management of the symptoms.

ENTER A GROUP OF WA FARMERS:

There has been significant research and findings that suggest Magnesium, Iron, Zinc and Calcium, OMEGA 3 in balance with OMEGA 6, hold keys to significant improvements in ADHD.

The attached article provides an overview however, ADHD is clearly demonstrated as a biological brain impairment.

The Diet Response

Foods are a difficult issue for many ADHD children due to sensory, texture and taste issues. There are also studies that indicate that dangerous pesticides, chemicals, additives and processed of foods foods (as per WHO listed) have a potential link to ADHD, depression and behavioural issues issues for the younger children.

Naturally Nurtured Australia (NNA)

(www.naturallynurtured.com.au), is a group of regenerative farmers in WA who:

1. Grow foods without dangerous chemicals and heavy metals.
2. Have heirloom varieties that are more nutritionally rich than newer breeds which are grown for hardness and early picking to manage supply chains.
3. The produce has been tested by ARL in Perth and are verified between 60-600% more nutritional richness in vitamins and minerals compared to USDA standards for the same produce.
4. Represent indigenous foods (especially Kakadu plums, lemon myrtle, Pepperberry) that are some of the highest sources of Iron, Zinc and Calcium in the world.

NNA is working with Monash University and Murdoch to commence **a diet based study** (similar to small scale pilots in the USA), to determine if ADHD children's 12 pillars of diagnosis is positively changed due to diet rather than mood drugs, especially on younger children who's organs seem to have difficulty with the drugs. Initial studies in the USA and Europe suggest the outcomes have been very favourable.

THE SCIENCE OF FOOD AND ADHD

Scientific studies have shown that children with ADHD often have lower levels of zinc, magnesium, and copper when urine tested. These children also frequently struggle with sensory issues with food, including textures and temperatures, differing brain patterns than their neurotypical peers, and challenges with gross and fine motor skills. Let's take a closer look at what these mighty minerals do for the body.

- **ZINC**
 - According to Lepping and Huber and supported by 55 studies the important brain hormone dopamine transporter is regulated by zinc (Zn^{2+}).
 - Dopamine transmission and function are directly related to ADHD symptoms, and deficiency of this chemical is causally linked to ADHD. This deficiency could be linked to low levels of zinc disrupting the transmission process.
 - Supplementation of zinc in ADHD patients has shown improvement in the status of zinc-binding sites on the dopamine transporter.
- **MAGNESIUM**
 - Studies have shown that serum magnesium levels are lower in children and adolescents with ADHD than in their non-ADHD study control counterparts.

- COPPER
 - Children and adolescents with ADHD showed copper deficiency in both hair and serology tests.

Deficiency in all 3 of these minerals is linked to the core symptoms of ADHD. Studies support supplementation and eating a diet rich in these minerals to assist in treating the brain and cognitive function issues of ADHD.

A STEADY DECLINE IN NUTRITION

Multiple studies of fruits and vegetables have shown a steady decline in their nutritional value over time, but that is not our biggest concern. Scientists, such as Geoff Johnson of the Agenda 2020 are gravely worried that no one seems to even notice or care about this vast decline in nutrients in our fresh produce.

Why is this happening? you may wonder. This problem is actually multi-faceted and has to do with several main issues:

- Soil issues.
- Changes to the actual produce type
 - Some modern higher-yielding varieties are less nutritious than their ancestors.
- Changes in farming methods
 - No-till planting.
 - Extensive use of chemical fertilizers and pesticides.
 - Changes to food processing and preparation methods.

A 2004 study by the Department of Agriculture (USDA) showed that in 43 common garden crops grown between 1950 and 1999 there was a statistically significant decline in six nutrients. These key nutrients were protein, calcium, potassium, iron, and vitamins B2 and C. However, seven other nutrients showed no significant decline. The research further suggested that “any real declines are generally most easily explained by changes in cultivated varieties.” This means there are quite possibly trade-offs between yield and nutritional content. In 2009, the author of the aforementioned 2004 study, Donald R. Davis reasserted his position that the nutrient decline in produce was hard to dismiss and further study was needed in regards to the correlation between yield and nutritional value.

A FARMER'S PERSPECTIVE

Farmers are not complacent or ignorant to the data shown in nutrition studies. One farmer stated when discussing peach harvesting, “As soon as there is a little bit of colour, they take them off the tree. They put them in dark rooms. They ripen slowly. This peach almost forgot it’s been a peach.” Other farmers report

the harvesting of tomatoes that appear ripe but aren't actually mature and the early picking of bananas that are then gassed until they turn yellow...all tricks of the trade to fool consumers.

Sadly, it doesn't stop there. A new harvesting innovation, SmartFresh has come into play. With this technology, produce, such as apples are allowed to remain on the tree until closer to ripeness. They are then picked and quickly thrown into cold storage where they are gassed with the SmartFresh chemical. This gas blocks the ripening process of the fruit by stopping ethylene production. Major apple producer, Montagues, speaks to the importance of using this process correctly, which sadly many don't. They state, "SmartFresh is an evil thing if you pick your fruit and it is not ready to be picked." (The Australian, 2012).

In addition to harvesting practices, grown varieties of produce have been modified from historical varieties to increase yield, make them more consumer-friendly, and/or to be sweeter. All these seem to have caused nutrient values to take a major hit.

FURTHER RESEARCH

Other studies have continued to be facilitated and have rendered notable, yet concerning results.

- The Kushi Institute found vitamin A levels in produce had decreased by 57%, calcium by 30%, and iron levels by 37%.
- The Toronto Globe 2002, undertook a similar study and found potatoes had lost 100% of their Vitamin A and 57% of Vitamin C. They even concluded that the current generation would have to eat 8 oranges to get the same vitamins and minerals as their grandparents would have had in one orange.

SOME CONCERNING FINDINGS

Presently, the outlook has not improved. In the last 35 years, there has been a large statistical increase in ADHD behaviors along with other cognitive and behavioral issues in students, including learning disabilities and anxiety. Nearly 16% of students are now officially diagnosed as falling into one or more of these categories. As an educator, I experience the struggles these children face each day, as well as the woeful lack of resources to help them to succeed. Even medications only show mixed effectiveness.

Even though the research regarding the link between chemicals in foods and these aforementioned issues is supposedly inconclusive, many undeniable facts cannot be ignored by parents, teachers and the medical professionals in charge of caring for our children. There is a plethora of research that supports the following:

- There is a greater impact on children in regard to chemicals and irritants in foods because their body mass is far less than adults, thus meaning their ratio of consumption is higher than grown-ups.
- According to the “Environmental Working Group” (EWG) Pesticides are applied directly to foods we eat and remain there even after the food is washed, cooked, and, in some cases, peeled. EWG’s analysis of U.S. Department of Agriculture data found that two-thirds of conventionally grown produce has detectable pesticide residues. Pesticides are designed to kill living organisms such as weeds, mould, and insects. Our bodies are living organisms, so to think that these chemicals are completely harmless seems naive.
- Research has identified pesticides and chemicals in food linked to cancer, hormone disruption, anxiety, cognitive problems, and behavioural issues (EWG.ORG) More information can also be found on our site <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5132627/pdf/EHP1040.pdf>

There is even more conclusive evidence in regard to children specifically dealing with ADHD and other health maladies.

- Children with ADHD have been found in urine tests to have higher levels of pesticides and low levels of key minerals or Zinc and Magnesium. Additionally, one study with a nationally representative sample showed increased odds of ADD/ADHD for 8-15-year-olds with increasing levels of OP pesticides metabolites in urine. (Bouchard et al. Pediatrics. 2010 Jun. [www.ncbi.nlm.nih.gov/ PubMed/20478945](http://www.ncbi.nlm.nih.gov/PubMed/20478945))
- Pesticides have been shown to affect a variety of body systems, including reproductive, endocrine, immune, and respiratory (Gilden, Huffling, & Sattler, 2010). However, as developmental disorders (e.g., autism) and behavioral conditions (e.g, attention-deficit hyperactivity disorder [ADHD]) (Xu et al., 2011) become more prevalent, it is increasingly important to assess possible links between environmental exposures and neurological or behavioral outcomes in children.
- Children of preschool age are expected to reach neurological developmental milestones (e.g., verbalization, ambulation), but research suggests that pesticides may interfere with that. (Liu and Schelar Page 3).

As you can see, even this “inconclusive research” is quite concerning and should prompt parents and any adult who is responsible for taking care of children to pause and evaluate what can be done to try to reverse these horrible statistics. I know it stopped me in my tracks and inspired me to create Naturally Nurtured Australia, an organisation with a mission of providing families with affordably priced produce that is free from chemicals and heavy metals, in addition to being nutritionally rich.