ADHD and Nutrition

A Review of Nutritional and Integrative Treatments

Dianne Rishikof, MS, RDN, LDN
ADHD background

- 3 types
  - “inattentive” type
  - “hyperactive” type
  - “combined” type

- Genetic and environmental factors
Incidence of ADHD

- 11% of all children are diagnosed with ADHD
- Doubled in less than 10 years
- Why the increase?
  - Better at finding them
  - Misdiagnosis
    - Symptoms exist on a spectrum
  - Loosened the definition
  - More kids have it
Outline

- Diet and Nutrition Factors and Treatment Strategies
- Individual Nutrient and Herbal Supplementation
- Environmental Toxins
- Other lifestyle factors
Diet

- Whole foods diet
  - Low processed foods

- Water!
Whole foods diet:

- Good quality protein
  - Grass fed beef, organic chicken, clean fish

- Smart Carb
  - Fruits and veggies, including starchy veggies
  - Sustains blood sugar and energy
  - Contains fiber, vitamins and minerals
  - Contains prebiotics and phytochemicals

- Healthy fats
  - Olive oil, avocados, O-3s
Whole foods diet

- Cut out (down on) the processed foods:
  - Automatically get the good and exclude the ‘bad’
  - Sugar
  - Refined flours, starches, grains
  - Trans fat
  - Pro-inflammatory oils
Breakfast

- High protein, smart carb
- Goal to maintain normal blood sugar
- Glycemic response:
  - Blood sugar spike and crash
  - No one could pay attention
- Could use the glycemic index/load or just EAT WHOLE FOODS
Snacking

- Small frequent snacks:
  - Maintain blood sugar levels
  - Provide good nutrition for growing brains

- Should be whole foods and healthy
  - Same guidelines as a meal
  - Protein, healthy fats, and smart carbs
Reduced appetite: Side effect of medications

- Reduced appetite:
  - Reward for trying something new (vs pressure or punishment)
  - Meds after meals
  - Nutrient dense snacks/food
    - Make them count
  - Let them eat when they are hungry (off schedule)
  - Let them be off the meds as much as possible
- Supplements
  - Protein
  - Vitamins
Food Sensitivities

- 40-60% have food sensitivities
- Gluten, dairy, corn, soy, eggs, peanuts, tree nuts
- Testing:
  - IgG
  - MRT
- Elimination Diets:
  - 2-6 weeks
- Diet references: 1, 2, 3, 4, 5, 6
Feingold: Additives

- 24 types of food additives in processed foods
- Preservatives
  - BHA
  - BHT
  - TBHQ
- Artificial Colors
- Artificial Sweeteners
- Artificial Flavors

www.HealthTakesGuts.com
Feingold: Salicylates

- Natural chemical found in foods:
  - Almonds, apples, apricots, berries, cherries, cucumbers, grapes, green peppers, nectarines, oranges, peaches, plums, tangerines, tea, tomatoes

- Eliminate for 4-6 weeks, reintroduce 1 at a time

- [http://feingold.org/](http://feingold.org/)
Failsafe Diet

- Free of Additives, Low in Salicylates and Amines, Flavor Enhancers
  - Salicylates, histamines, Benzoates, Glutamic Acid, Sulfites
- Very restrictive, but effective
- Eliminate all plant AND artificial chemicals

- Failsafediet.com
- Fedup.com.au/factsheets/overview
Gut Health

- Gut is as important to psychiatry as anything
  - Gut references 1, 2, 3

- Intestinal Permeability

- Potential dysbiosis
  - Candida

- 5R protocol

- Probiotics
To cover all bases:
- Eliminations of foods
- Reduced appetites
- Give body what it needs so it doesn’t take from brain
- Evidence that it is a helpful addition to treatment


Individual Nutrients

- Omega 3 fatty acids:
  - Essential to eat (can not make)
  - Crucial for brain function
  - ADHD have lower levels in the blood vs ‘normal’ kids
  - Deficiencies of O-3 cause:
    - Decreased attention
    - Increased hyperactivity
    - Increased impulsivity
  - Supplementation: STRONG evidence
    - 300mg-2000mg a day
Individual Nutrients:

- **Iron**
  - Ferratin
  - ADHD kids have half what they should
  - Measure first, never supplement blindly

- **Zinc**
  - Low zinc is correlated with ADHD
  - Studies show ADHD improved with supplemental zinc
  - Essential fatty acid conversion
  - Brain development
  - Neurotransmitter conversion
  - Deficiency symptom: inattentiveness

Individual Nutrients:

- **Magnesium:**
  - Low levels have been documented in ADHD
  - Deficiency symptoms: distractibility, hyperactivity
  - Supplementation = improvement
    - Especially if in conjunction with Zinc and O-3
    - 80-200mg/day
  - Glycinate

- **Vitamin D**
  - Common deficiency
Individual Nutrients:

- Folate
  - Methylfolate
  - MTHFR
- B6
  - P-5-P
- Choline
  - Precursor to acetylcholine-NT for focus and processing speed.
- Carnitine
  - Reduces hyperactivity
Individual nutrients:

- Phosphatidylserine
  - Good evidence
  - Improves ADHD symptoms and ST memory
  - Increases dopamine and acetylcholine levels
  - Decreases stress
  - With O-3, reduces ADHD symptoms (hyperactive)
Individual Nutrients:

- Anti-oxidants
- Oxidative stress
- Detox
- Glutathione
- Vitamins C, E, A, Selenium


Individual Supplements:

- **Gingko Biloba:**
  - Helps with focus and attention

- **Tyrosine**
  - Precursor to dopamine

- **5HTP**
  - Precursor to serotonin
Supplements of note:

- **Calming:**
  - Glutamine:
    - Precursor to GABA
  - GABA
  - Valerian
  - Lemon balm
  - L-theanine
  - Inositol
Supplements of note:

- Huperzine
  - Increases acetylcholine in brain
- Bacopa monnieri
  - Focus and attention
Toxins:

- **Heavy metals:**
  - Mercury
  - Lead

- **Chemicals**
  - Food
    - Pesticides, additives
  - Cleaning
  - Air
    - smoke
  - Toys, plastic, PCBs
Testing:

- Micronutrient (Spectracell)
- Genetic SNP testing (23andme, Genomics Solutions Now, Neuroscience, Nutrigenomix)
- Heavy Metal Testing (urine or hair)
- Neurotransmitter (urine)
  - Neurotransmitters excreted in the urine as biomarkers of nervous system activity: Validity and clinical applicability

- Food sensitivity
- Organic Acids Test (urine)
  - For Candida, dysbiosis
Lifestyle factors:

- **Exercise**
  - STRONG evidence
  - Exercise References 1, 2, 3, 4, 5, 6, 7, 8, 9
  - Improves ADHD

- **Sleep**
  - 7-8 hours a night

- **Limit screens**
  - 30min-1 hr/day
Lifestyle Factors:

- Meditation and mindfulness and yoga

- Martial Arts

- Biofeedback, neurofeedback

- Nature
  - Fresh air
  - Time in nature, calms brain
Putting it all together:

- Whole foods diet
  - Processed food free—eliminates many problems
  - Get rid of additives
  - Possible elimination of: gluten, dairy, salicylates
  - Plenty of water
  - Make sure: high protein breakfast

- Supplements:
  - Multivitamin
  - O-3s
  - Probiotic
  - Consider: folate, Mg, Zn, other specific nutrients
  - Others as needed based on individual case
Putting it all together:

- Testing
  - Determined if needed based on individual case
- Exercise
- Sleep!
- Limit screens
- Nature
- Be aware of the nutritional implications of meds
Questions?

- Dianne Rishikof, MS, RDN, LDN
- www.DianneRishikof.com
- www.HealthTakesGuts.com
- Dianne.Rishikof@gmail.com
Resources and References:

- http://www.additudemag.com/
- diannerishikof.com/nutritional-supplements/
- The kid-friendly ADHD and Autism Cookbook
References:


- Neurotransmitters excreted in the urine as biomarkers of nervous system activity: Validity and clinical applicability
  David T. Marc*, Joseph W. Ailts, Danielle C. Ailts Campeau, Michael J. Bull, Kelly L. Olson NeuroScience, Inc. 373 280th Street, Osceola, WI 54020, United States

Gut Health references:

1: Forsyth P. Voices from within: gut microbes and the CNS. Cell Mol Life Science 2013 70:55-69


Exercise references:


2. [PubMed ID](http://www.ncbi.nlm.nih.gov/pubmed/25988743) Child Care Health Dev. 2015 May 18. doi: 10.1111/cch.12255. The main cumulative evidence indicates that short-term aerobic exercise, based on several aerobic intervention formats, seems to be effective for mitigating symptoms such as attention, hyperactivity, impulsivity, anxiety, executive function and social disorders in children with ADHD.

Exercise references:


5. http://www.ncbi.nlm.nih.gov/pubmed/25561359  Res Dev Disabil. 2015 Mar;38:181-91. doi: 10.1016/j.ridd.2014.12.005. These findings support the hypothesis that long-term PA has a positive effect on executive functions of children with ADHD, regardless of the specificity of the PA. The outcomes indicated that regular PA can be used as a complementary or alternative non-pharmacologic treatment for ADHD.

Exercise references


Diet references


Diet references


References:

References:

References:

References: