

Value of hair analysis testing in children's health

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Unlike adult health screening tests, there is little testing for pediatric general health screening. Adults will get annual medical evaluations including blood and urine testing and recommendations for additional screening based on their age, family history and risk factors. However, consider the idea of screening our young patients. When I interact with the parents, it is very uncommon that there is any mention of preliminary screening tests from general medical practice. In my naturopathic pediatric practice, I commonly include hair analysis as an objective non-invasive way to screen for nutritional status and toxic metal exposures.

Nutritional screening value of hair analysis

As clinicians, we know that despite the diet or supplements we recommend for our pediatric patients, what is actually consumed and what is actually digested and absorbed can be quite different. Digestion-related factors commonly compromise the proper digestion and absorption of nutrients (eg: eating fast or while commuting or under stress, picky eating, food intolerances and intestinal hyperpermeability, dysbiosis, etc.). It is valuable therefore to have an assessment tool to reliably assess both the child's baseline and their treatment outcome. Hair is certainly much easier to obtain than a blood sample and helps with patient compliance in the young, as well as parental comfort.

Common nutritional & digestive challenges in children:

- rushed meals → maldigestion
- mobile meals → maldigestion
- picky eating → nutritional deficiency
- sensory challenges
- inadequate chewing → maldigestion
- antibiotic overuse → intestinal microbial imbalance (dysbiosis)
- low diversity of intestinal microbes
- constipation is commonplace
- over-scheduled → maldigestion/ deficiency
- questionable quality/processed foods
- tight grocery budgets
- food intolerances → malabsorption
- intestinal hyperpermeability → immune dysfunctions

Validity of hair analysis in children's nutrition screening

To support the validity of hair analysis in the pediatric population, consider a 2017 study e-published in *Biological Trace Element Research* which compared the status of hair mineral and toxic elements in both undernourished and well-nourished children and found there was a significant (and expected) difference, validating the hair analysis usefulness. Another study examined the clinical correlation of night blindness in children. It is known for instance that selenium is a useful mineral for eye health. A 2015 study appearing in the journal *Environmental Monitoring and Assessment* found significantly lower levels of selenium in children with night blindness compared to children of similar age with normal night vision.

Clinical case

Four year old male with frequent upper respiratory tract infections requiring antibiotic prescription (3 in the last 8 weeks). The child was a picky eater, pale and had a sensitive and serious temperament. The mother shared that he was a picky eater, easily fatigued and was not very expressive, verbally nor artistically. His baseline hair analysis showed several insufficiencies including calcium, chromium, iron, magnesium, manganese and selenium. I recommended a short-term herbal digestive tonic as well as a custom nutritional supplement in addition to encouraging repeated attempts at small amounts of foods that would help correct his deficiencies. Repeat hair analysis testing seven months later showed the following percent changes: +17% calcium, 0% chromium, +80% iron, +30% magnesium, +120% manganese and -18% selenium. The mother conveyed that her son was much more expressive at several levels, socially amongst his peers, emotionally in his description of his experiences after daycare and was much more adept and interested in his drawing/colouring work. She brought in a series of his drawings and the detail and creativity was dramatically apparent. He had a normalized immune activation with only two congestive episodes which were easily managed without the use of antibiotics.

Overall, I have found hair analysis to be an instrumental part of my naturopathic practice. It helps highlight imbalances objectively, consistently and in a way that is easy to present to the whole family.

Dr. Rahim Habib has 17 years of experience as a registered naturopathic doctor in Ontario. He has a general family naturopathic practice with a special interest in helping patients comprehensively detoxifying their bodies for preventative and therapeutic benefit. He also has a special interest in children's health, assisting kids in their learning and behavioural health with conditions such as ADHD, Autism spectrum, asthma, allergies and childhood obesity, etc. He primarily helps adults with chronic conditions, such as those with hormonal and immune imbalances, infertility, obesity, dementia and cancer care. He is the director of the Four Seasons Naturopathic Clinic for Detoxification and Healing and can be reached at 905-597-7201 or www.FamilyNaturopath.ca.

References:

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