#### IN THE NAME OF GOD

دکتر نازنین حقوقی فوق تخصص روانپزشکی کودک و نوجوان دانشگاه علوم پزشکی اصفهان

# Nutrition and supplementation in ADHD

#### Gut-brain communication:

Vagus nerve and through transport of short-chain fatty acids, cytokines, amino acids, and neurotransmitter precursors

#### Entero-endocrine cells:

release hormones and dendritic cells that modulate immune and microglia function, ultimately influencing neuroactive metabolites that impact behavior

#### Gut bacteria:

metabolism, GI health, neurological health and immune function

synthesize neurotransmitters

improve social and anxiety-like behaviors

#### Lactobacillus rhamnosus GG:

stabilization of the intestinal permeability barrier, possibly leading to changes in tight junctions, mucin production, and production of antigen-specific immunoglobulin A

regulation of emotional behavior and the central GABAergic system through the vagus nerve is related to a number of neuropsychiatric disorders, such as attention deficit hyperactivity disorder, Asperger's, anxiety, depression, and autism

Improvements in GI- and ASD-related symptoms were observed in a small pilot study of ASD-diagnosed children after microbiome transfer therapy

# Infant microbes and metabolites point to childhood neurodevelopmental disorders

A birth cohort for over 20 years to find factors associated with neurodevelopmental disorder (ND) diagnosis

#### **ADHD**

higher score on the GI Severity Index:

constipation, diarrhea, average consistency of stool, bad smell of feces, abdominal pain and bloating more than healthy children

# **ADHD**

DIET

**SUPPLEMENT** 

### DIET

Sugar

Wheat

Egg

Milk

Artificial color

Fatty acid

Meta-Analysis of Attention-Deficit/Hyperactivity Disorder, Restriction Diet, and Synthetic Food Color Additives

# Nutrition in the Management of ADHD: A Review of Recent Research

### **SUPPLEMENTS**

**Probiotics** 

Omega3

Iron

Zinc

Vit b6

Vit d3

magnesium

# The effect of long-chain omega-3 fatty acids on Children with ADHD

Effectiveness of Treatment with Added Probiotic Supplement in Children with Attention-Deficit/Hyperactivity Disorder

### **HERBS**

Treating ADHD symptoms

Improve mental performance

Ginkgo Biloba

Panax Ginseng

Matcha Green Tea

Turmeric

Maca Root

#### QELBREE

an effective, safe, and convenient once-a-day non-stimulant attention deficit/hyperactivity disorder (ADHD) medication for adults and kids ages 6 years and older

## brainzyme

natural supplement: plant extracts, vitamins, and minerals that have been scientifically proven to support cognitive activity, mental performance, and brain heal

support focus, energy, mood and memory.

# Thanks for your attention