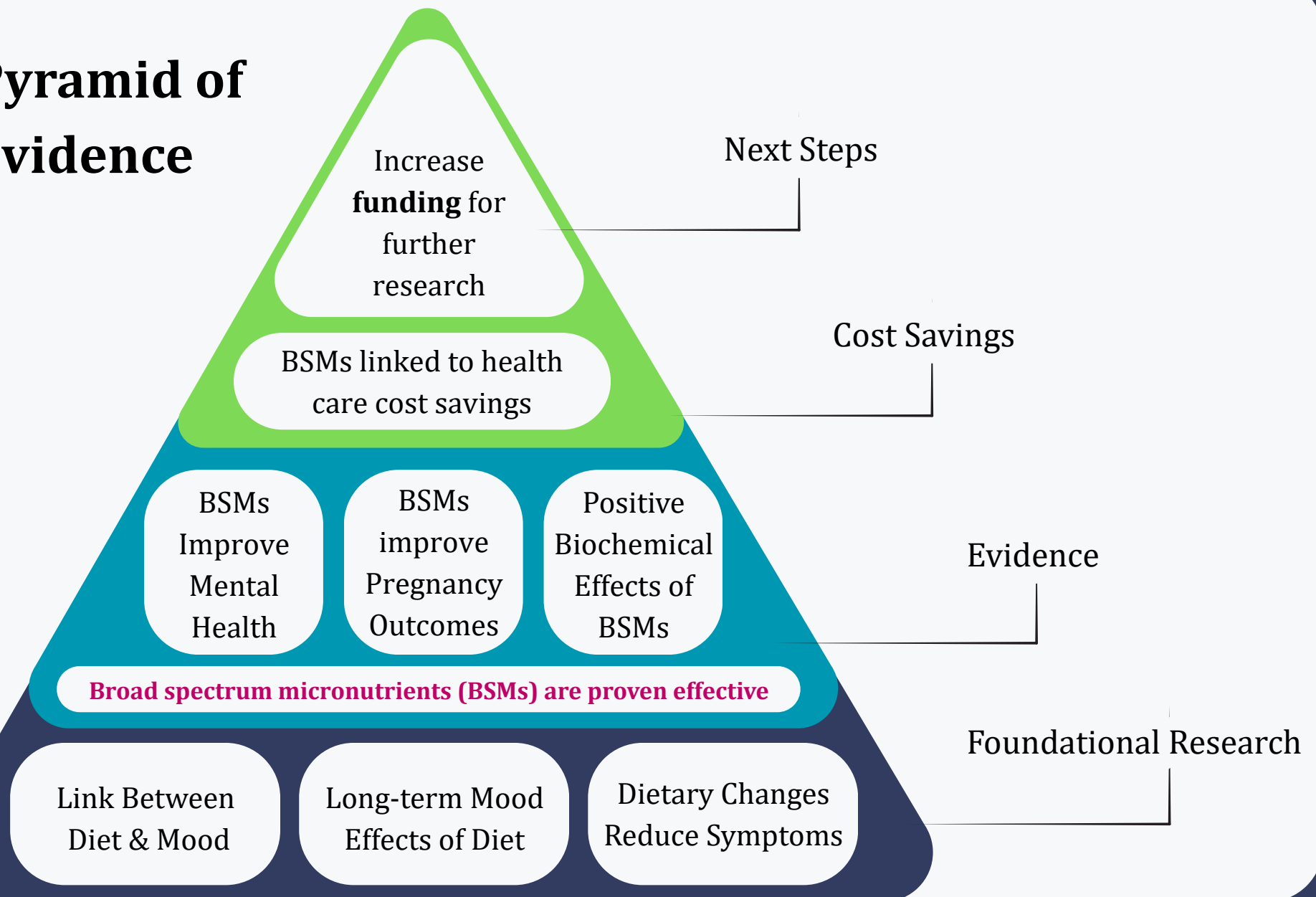


# Scientific Evidence Proves Nutrients are the Foundation of Brain Health: A Status Report

## Pyramid of Evidence



# The Foundational Research

## Link Between Diet & Mood



### **1. Mood & anxiety symptoms are correlated with the foods we eat.**

The cornerstone of this work is more than 12 population studies worldwide that demonstrate a correlation between the food people eat and their mental health (1). In one Canadian study of adults with mood disorders, the higher their mineral and vitamin intake, the better their general mental functioning; this relationship was detectable across just 3 days (2). Another study of Canadian children found that the higher their Healthy Eating Index score, the fewer worries and sadness they reported in grade 5 (3).

## Long-term Mood Effects of Diet



### **2. The foods we eat can predict emergence of mood & anxiety symptoms two years later, even in children as young as 11.**

Studies examining dietary patterns of adults have been reported in many countries, from Spain to China. They all found that people who mainly ate a whole-foods Mediterranean-style diet were less likely to develop depression 3-6 years later, compared to people who relied mostly on processed packaged food (4).

## Dietary Changes Reduce Symptoms



### **3. Eating better can significantly reduce mood & anxiety symptoms in 12 weeks.**

A meta-analysis of 16 randomized controlled trials (RCTs) showed that dietary interventions significantly reduced depressive symptoms in adults (5).

# Scientific Evidence:

## Supplementary Broad-Spectrum Micronutrients (BSMs) are Proven Effective (50+ studies)

BSMs  
Improve  
Mental Health



**Treatment with BSMs reduces symptoms of ADHD, mood instability and anxiety across many diagnostic categories, usually in 4-6 weeks.**

BSMs introduced to populations experiencing a period of elevated stress levels (e.g., following earthquakes or floods) result in decreased stress, depression, and anxiety (6). Overall, more than 50 peer-reviewed studies have confirmed that treatment with BSMs reduces mood dysregulation (explosive rage, irritability, and aggression) (7,8). Three randomized placebo-controlled trials for ADHD reported “large effect sizes” (major improvements) (9).

BSMs improve  
Pregnancy  
Outcomes



**Treatment with BSMs reduces depression & anxiety in pregnant women and dramatically reduces some adverse birth outcomes.**

BSM treatment of pregnant women with symptoms of depression and anxiety (the New Zealand NUTRIMUM study) reduced both their prenatal and postnatal symptoms (10,11,12). Furthermore, BSM treatment dramatically reduced some adverse birth outcomes such as rate of preterm birth (13), and improved measures of emotion regulation after birth (14).

BSMs show  
evidence of  
reducing  
inflammation



**Some of the body’s biochemical mechanisms use micronutrients to improve brain function. *Other mechanisms need research.***

Some functions of nutrients in the human brain are well-established, see the 5-minute video <http://bit.ly/47S44fi>. After 8-10 weeks of BSM treatment, stool and blood samples generated from a subsample of participants showed increased microbiome diversity and butyrate-producing metabolites, immune factor changes, and reduction in oxidative stress (15-17).

## Cost Savings

Significant health care cost savings of more than 90% have been documented in cases of people who did so well on BSMs that they required little or no further mental health treatment.



In two extensively documented cases, health economists showed that effective BSM treatment cost less than 10% of the patients' previous (and ineffective) conventional care (18,19). In one of those cases, the follow-up data extend more than 15 years; in the other, the follow-up was 14 years with data from three provinces. In the study mentioned above with children aged 10-11, the research demonstrated that for every one of nine health behaviours that the children followed (six of which involved dietary intake), there was a 15% decrease in the need for medical referrals for mental health problems two years later (4). A 15% decrease in cost for pediatric mental health alone would have a significant impact on health care budgets.

## Next Steps:

### Funding required for these projects

**Critical Funding Needed!**

①

Funding to  
study  
pregnant  
women



**Funding is needed for a skilled American team to repeat the New Zealand study on pregnant women.**

Replication of research findings by scientists in separate, independent laboratories is a hallmark of good science. The NUTRIMUM study described above has tremendous implications for improving pregnancy and birth outcomes, as well as building better brains from birth onward (10-14). NUTRIMUM was (and is) being carried out admirably by our colleagues in New Zealand. Still, it is now essential that an independent team of scientists with the proper skills conduct a replication of NUTRIMUM to determine whether its groundbreaking findings are confirmed in a new population. Oregon Health & Science University (OHSU) and Ohio State have skilled teams fully capable of conducting a NUTRIMUM replication: experts in conducting clinical trials, in pregnancy research, in food and dietetics, and in data management.

②

Funding for  
ADHD and BSM  
research



**Funding is needed to generate data from blood and urine samples from a study of BSMs in children and teens with ADHD and irritable mood.**

Costs include analyzing qualitative data from focus group participants, generating and interpreting data from blood and urine samples, and costs of writing up manuscripts.

## Next Steps

**Critical Funding Needed!**

③

Funding for Biomarkers



**Funding is needed for the OHSU team to generate data from remaining participant samples to build on early biomarker findings.**

The research team led by Dr. Jeni Johnstone at OHSU has tissue samples stored in a freezer, waiting for funding to do the assays. The samples (blood, urine, hair, stool, saliva) are from their MADDY study (Micronutrients in ADHD Youth), one of the most rigorously designed clinical trials on pediatric ADHD and BSMs (9). Conducted across three university sites - OHSU, Ohio State University, and the University of Lethbridge - this double-blind, placebo-controlled trial tested the BSM in children aged 6–12 who were diagnosed with ADHD and significant emotional dysregulation. Children taking the BSM were 3x as likely to be rated “much” or “very much improved” by clinicians on symptoms like attention challenges, emotional dysregulation, and irritability - compared to placebo.

④

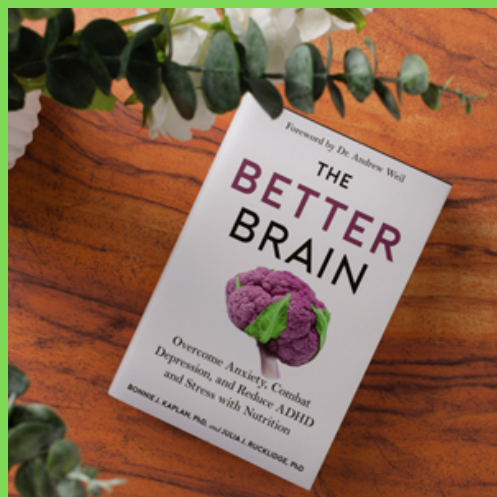
Funding for BSM and pregnancy research



**Funding needed to pay for application to FDA for approval to study a BSM in the pregnancy study**

To replicate the BSM pregnancy study in the US, an Investigational New Drug (IND) application will be needed. Funding is required to cover the administrative costs of completing the detailed application and working with the Federal Drug Administration to obtain the IND.

# Fundraising for Future Micronutrient Research



December 2025 marks the 10th anniversary of the 2 donor-advised charitable funds (1 in Canada and 1 in the U.S.) that I established to raise funds for my junior academic colleagues committed to studying the potential benefit of broad-spectrum micronutrients for the treatment of mental health symptoms.

The charitable funds have been very successful! About \$1M was raised and distributed, **thanks to many of YOU** who are reading this.

I retired from my academic position in 2016 and focused my energy on fundraising and Knowledge Translation (including coauthoring *The Better Brain* with Julia Rucklidge). Since then, the research on the 2 broad-spectrum formulas that were developed in Alberta has generated dozens of additional, excellent studies. But now, the funding landscape has changed, and I am reaching out to fundraise again.

**Every donation is important**, no matter how small. And thank you – email **Bonnie Kaplan**, [kaplan@ucalgary.ca](mailto:kaplan@ucalgary.ca) for more information.



Scan above, or click here for Canadian Dollar Donations!

Indicate your donation is for:  
Nutrition & Mental Health Fund

## Make a Tax-Deductible Donation Today!

- 100% of your donation goes to research
- Your donation goes directly toward independent, university-based studies
- Your gift helps generate data to improve clinical practices
- No overhead. Just direct support for research that matters!



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