

**Treatment of psychiatric disorders with  
broad-spectrum nutrients:  
The importance of biomimicry**

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# Disclosure

- 1. No commercial interest in any company or sale of any product**
- 2. But please don't google my name**

**Is rejection of the  
PHARMACEUTICAL model the  
same as rejection of the  
BIOLOGICAL basis of mental  
disorders?**

## What is *biomimicry*?

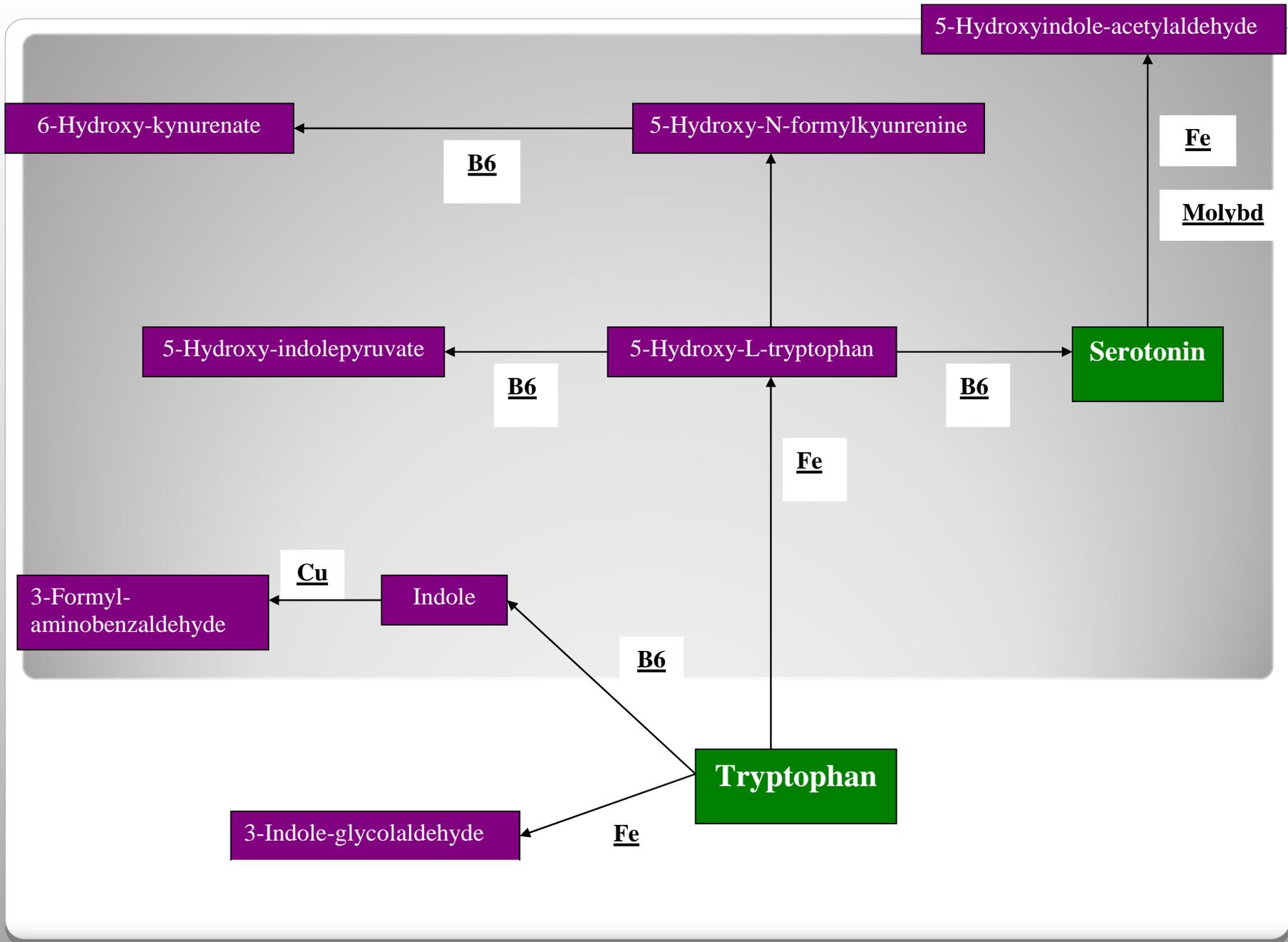
- The examination of Nature, its models, systems, processes, and elements to emulate or take inspiration from in order to *solve human problems*.

## Example....

- Swiss engineer George de Mestral in 1941 after he removed burrs from his dog and took a closer look at how they worked.
- Burr  Velcro

**Relevance to nutrition?**

**How do *you* think about  
nutrients? One at a  
time?**



- **Looking at brain metabolic pathways, how could anyone suggest treating symptoms with *only* vitamin D, or *only* one of the B vitamins, etc?**
- **The danger of magic bullet thinking!**

## Limiting my comments to 3 topics.....

1. Importance of broad spectrum approach for nutrient treatments (no more magic bullets!)
2. Likely mechanisms
3. Nutrition is not enough.....family, support, Open Dialogue, etc

# Nutrition and Mental Health

## historically --- actual magic bullets

- Psychiatric symptoms assoc with deficiencies in single nutrients – known for >100 years
  - thiamine/B1 (Wernicke's encephalopathy, Korsakoff's psychosis)
  - niacin/B3 (pellagra)
  - cyanocobalamin/B12 (psychosis of pernicious anemia)
  - iodine ('myxedema madness')
- ***Magic bullets may exist in simple frank deficiency syndromes***

**And there is >100 yrs of research on single nutrients showing *some benefit***

- **Single ingredient research 1920s-present --- for mental health, *excluding fatty acids***
- **Correlational data; treatment studies**
- **Strongest evidence in single nutrient studies: *iron, copper, zinc, vitamins B1, B6, B12, D, E and folate***
- **In terms of treatment: *Better clinical efficacy from multi-ingredient treatments...as we'll see later.***

Kaplan, Crawford, Field, Simpson  
(2007), *Vitamins, Minerals, and Mood, Psych Bull.*

**Epidemiologic surveys  
of dietary patterns:  
Spain, UK, Australia, etc.**

**Australia: 1,046 women, diagnoses of depression/anxiety confirmed with structured interviews, FFQ for dietary patterns**

- **“traditional” dietary pattern (vegetables, fruit, meat, fish, and whole grains) associated with lower odds for major depression, dysthymia, anxiety disorders.**
- **“western” diet (processed or fried foods, refined grains, sugary products, and beer) assoc with a higher mental health symptom scores.**

Jacka FN et al., *Am J Psychiatry*, 2010—  
correlational study

- School children (N=3040) ages 11-18, followed over 2 school years
- Measured for 'healthiness' of diet (an overall Diet Score)
- Mental health measured with Pediatric Quality of Life Inventory
- Result: *Change* in diet quality was associated with *change in mental health.*

Jacka et al., *PLoS ONE*, 2011 -- *prospective*

***Does this mean that if people with mental health disorders ate better, they would have fewer symptoms?***

- **How well do people with mood disorders eat, and is their dietary intake associated with their mental health status?**
- **97 community-living adults, diagnoses confirmed with structured interviews**
- **Obviously, only mildly and moderately symptomatic people volunteer**
- **3-day food records, FFQs**

**Davison & Kaplan (2012) “Nutrient intakes are correlated with overall psychiatric functioning in adults with mood disorders,” Cdn J Psychiatry, 57(2):85–92**

**So if we can see across-the-board relationships between nutrients and mental health**

**And because we *know* that many, many nutrients are critical for proper brain function**

**And since we all know that humans have evolved to need many nutrients, *consumed in balance***

**Why do people continue to look for magic bullets?**

**Here's one alternative:**

## **EMPowerplus, Truehope EMP+**

- **Not commercially affiliated (but pls don't google my name)**
- **36-ingredients (bulky minerals)**
- **Developed in Alberta to help members of the founders' families**
- **Q's? go to [www.truehope.com](http://www.truehope.com)**

# What can EMPowerplus do?

- ~ 20 publications in medical journals
- *Most studied complex formula in the world, but not the only one*
- Ameliorates explosive rage (great for acute crises of that nature)
- Enhances mood stability
- Ameliorates some aspects of anxiety
- Treats psychosis (children)
- ?more.....

# How has it been studied?

- **Case-control**
  - mood symptoms in people with autism, comparison to conventional medication
- **Database analyses**
  - N=358 adults with bipolar disorder, symptoms over 6 months (~50% sx)
  - N=120 children/adolescents with bipolar disorder, symptoms over 6 months

- **Open label case series**
  - children, adults (all large effect sizes)
- **Randomized trial**
  - comparison to Berocca
- **First placebo randomized trial under review**
- **Case studies (ABAB)**
  - 18-year-old with OCD
  - 2 children with psychosis\*

# Where has it been published?

*J Clin Psychiatry*

*J Child Adolesc Psychopharmacol*

*J Attention Dis*

*BMJ Case Reports*

*J Altern Comp Med*

*Hum Psychopharmacol Clin Exp*

*Psychiatry Res*

*BMC Psychiatry*

*CNS Spectr*

*J Anx Dis*

## Where has it been studied?

- **Canada (Univ of Calgary, Univ of Lethbridge)**
- **U.S. (Ohio State Univ, New York Univ, Harvard Medical School, private practice series)**
- **New Zealand (Univ of Canterbury)**
  
- **No investigator is commercially affiliated with the developer**

## 2. Making sense of it all: **likely mechanisms**

1. *Direct impact on metabolic pathways involved in neurotransmission*
2. **Inflammatory processes**
3. **Inefficiency of mitochondria to defend against systemic inflammation**

# **Some people may have a higher genetic need for some nutrients**

**---Mutations can result in enzymes having a decreased binding affinity for a coenzyme, resulting in a lower rate of reaction**

**---The effects can be remedied or ameliorated by the administration of high doses of the vitamin component of the corresponding coenzyme, which at least partially restores enzymatic activity**

**Ames et al., Am J Clin Nutr. 2002 Apr;75(4):616-58.**

*The genes for mental  
illness are likely  
the genes that regulate  
brain metabolism of  
essential nutrients*

**Pauling (1974)**

# **But nutrition is not enough!**

*If you are a clinician*

**FIRST – get them to eat better (but remember Margaret Mead)**

**SECOND – get them on a broad spectrum formula at significant levels for both vits and mins, and consider other nutrients too**

**THIRD – work on social-emotional issues, family support, etc.**

**FOURTH – if necessary, add in small amounts of pharmaceuticals, for acute period**



*"Discouraging data on the antidepressant."*