



# NUTRITION ESSENTIALS FOR MENTAL HEALTH

A Complete Guide  
to the Food-Mood  
Connection

LESLIE KORN

FOREWORD BY JAMES LAKE, MD

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## Mood Follows Food

Did you know that thiamine (vitamin B1) deficiency can lead to weakness, irritability and depression? That folate (vitamin B9) deficiency can result in depression, apathy, fatigue, poor sleep, and poor concentration? That people with chronic digestion problems are often anxious and depressed? And believe it or not, that pure maple syrup has the potential to prevent Alzheimer's and other brain disease?



Leslie Korn

**Nutritional neuroscience** is validating the reality that nutritional factors are intertwined with human cognition, behavior and emotions (Sathyanarayana, Asha, Ramesh, & Rao, 2008). In our current milieu of treating the 'whole' person—soma, psyche, and spirit—food has finally claimed its well deserved acclaim for its role in the development, management and prevention of our overall health and for specific mental health problems such as depression, schizophrenia, ADHD, and Alzheimer's disease (Sathyanarayana et al., 2008).

**The news isn't exactly new**—in the 1950s Canadian physician/medical researcher Abram Hoffer treated people with schizophrenia using niacin (vitamin B3), while Linus Pauling coined the term 'orthomolecular'—the right molecules in the right amounts—in 1968 to describe his method of treatment (he promoted megadoses of Vitamin C). And though some question orthomolecular medicine (maintaining health through nutritional supplementation), the science is clear that both our nutritional choices and our individual biochemistry impact our health.

**Despite the fact that food impacts mood**, academic programs for psychotherapists, psychologists, psychiatrists, psychoanalysts, and

so forth, do not include courses in nutrition and mental health. Leslie Korn, PhD, MPH aims to change that one reader at a time, with her insightful and useful publication, *Nutrition Essentials for Mental Health: A Complete Guide to the Food-Mood Connection* (forward by James Lake, MD).

**Written for mental health clinicians**, *Nutrition Essentials for Mental Health* offers foundational information about nutrition and nutrients and the body, along with principles and practices to integrate nutritional therapy with mental health treatment.

**To say this book is a complete guide** is an understatement. Within 424 pages (including complete references, appendices and online links for more materials), Dr. Korn manages to offer every imaginable support one needs from peer-reviewed data validating her assertions to sample dialogues, case vignettes, goal setting procedures and essential outcomes. She's created recipes such as coconut milk mocha—her "favorite morning or afternoon guilt-free 'pick-me-up'", a chia and nut butter smoothie, a raspberry lime Rickey and an entire appendix (R) for cruciferous vegetable recipes to augment her

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recommendations and quite simply to offer a new and nutritional way to eat.

**There are nine chapters.** Chapter 1 begins with the foundational understanding that addresses the question: Why does nutrition matter in mental health? Dr. Korn writes about our “gut brain” in Chapter 2, and ways to listen to our clients discuss their diet and their health as well as assessment techniques in Chapter 3. Chapter 4 covers common diagnoses and typical nutritional culprits followed by Chapter 5: Food Allergies, Sensitives, and Special Diets. There’s information on the best vitamins, minerals, amino acids, glandulars and special nutrients for mental health, side effects and withdrawal from medication, viewing the kitchen as your pharmacy, and finally Chapter 9 brings it all together, making recommendations for success.

**Dr. Korn offers specific nutritional** protocols for numerous diagnoses/situations, including but not limited to: alcoholism, hypoglycemia, eating disorders, kicking caffeine addiction, and strategies for withdrawal from psychotropic medications. The Appendices are a treasure trove in themselves with comprehensive resources, guidelines, recipes, a sample client intake form, food-mood diary, and lists of foods containing gluten, lactose, casein, dairy, corn and oh so much more.

**There’s no doubt in my mind** that this is the go-to textbook for clinicians wanting to bring awareness to food and its impact on their clients’ mental health.

### **Five Essential Factors**

**According to Dr. Korn,** there are five essential factors that affect mental health:

- 1) “chrononutrition” imbalance
- 2) Blood sugar and functional hypoglycemia
- 3) Food sensitivities, especially gluten/casein sensitivity
- 4) Inflammation, including mitochondrial energy and oxidative stress
- 5) Methylation: conversation of folic acid (B9) to l-methylfolate

**Dr. Korn uses the word** ‘chrononutrition’ to refer to “the dynamic relationship between the timing of food intake and nutrient deficits” such

that “the sum total of these effects on circadian rhythm underlies mental health” (p. 81). Within her conversation about the importance of our circadian rhythms, she demonstrates an effective part of her writing process—metaphors, analogies and comparatives to help readers understand her what she’s talking about. For instance, she offers the analogy of a major clock in the brain to understand our circadian rhythms and its impact on the body and on our mental health. I didn’t realize that our circadian rhythm “significantly influences depression, anxiety, PTSD, chronic pain (fibromyalgia), menstrual problems, OCD, bi-polar disorder, eating disorders, and insomnia” (p. 81).

**Every statement** Dr. Korn offers is broken down into do-able steps. For starters, there are essential steps detailed to assess each of the five factors. Within each step there are assessment essentials—such as specific blood tests (lab work), assessment questionnaires (available in the Appendices), dietary guidelines, and nutritional parallels—for instance people with bipolar disorder, OCD, autism, ADHD, and eating disorders have been found to react to gluten and casein. When discussing mood disorders, she recommends: a 24-hour salivary cortisol test; a vitamin D test; a MTHFR mutation test; a salivary hormone test; and gluten/casein and food sensitivity test. For bipolar disorder she notes as assessment essentials: functional hypoglycemia and homocysteine, which is noted as “a chemical in the blood that is produced when the amino acid methionine is broken down in the body. High levels occur in response to the MTHFR mutation and increase risk of mental health disorders, dementia, and heart disease” (p. 102).

**There’s information** about obsessive-compulsive disorder, chemical dependency and substance abuse, trauma, cognitive function and dementias, autism spectrum/ neurodevelopmental disorders, traumatic brain injury/concussion syndrome, ADHD, and more. Because nutrient deficits and imbalances are noted to contribute to the five essential factors underlying mental illness, Dr. Korn writes, it’s important to assess and address them.

*Continued on page 27*



**Each chapter begins** with a "Diet Essential", an overall theme for the information presented. Chapter 2 begins with, "Where there is mental illness, there is always a history of digestive problems" (p. 99) and Chapter 5 offers, "Mental illness is affected significantly by diet and exposure to food toxins and allergies" (p. 126). As well, there's an introduction and a clear statement of what she will show/review/explain in each chapter—guideposts that let the reader know what's happening and why, what is available informationally and what it means, and how to apply it.

**The information** intrigued me in the discussion about medical problems and their intersection with nutrition such as adrenal fatigue, obesity, chronic fatigue syndrome, skin disorders, pain/fibromyalgia and thyroid disorders. Too often patients are told they have a syndrome (aka no clear reason for their symptoms, no clear-cut medical diagnosis) therefore they just have to live with it. I'd be curious to know the outcome results for patients with chronic fatigue syndrome and fibromyalgia who were, instead of left on their own, referred to someone trained in medical nutrition to create a workable nutritional plan (food and proper supplementation) for a trial period.

**Chapter 6 is devoted** to the exploration of the principles of and the application of food to prevent and treat the five underlying factors common to all mental illness, along with specific categories.

**Dr. Korn offers the utility** of working from a comprehensive team approach—nutrition is one part of clinical care—and notes practitioners who work in the field of nutrition, including nutritional counselors/therapists, registered dietitians, naturopathic physicians, health coaches, osteopathic doctors, integrative medical practitioners, functional medicine practitioners and more. She stresses the importance of working with clients to:

- ⇒ Identify first steps for change
- ⇒ Incorporate motivational interviewing into nutritional changes
- ⇒ coach for adherence

- ⇒ provide a written nutritional report to review with the client
- ⇒ provide specific resources and handouts to support success
- ⇒ Consider group support systems
- ⇒ Enjoy a healthy meal with family and friends (page 326)

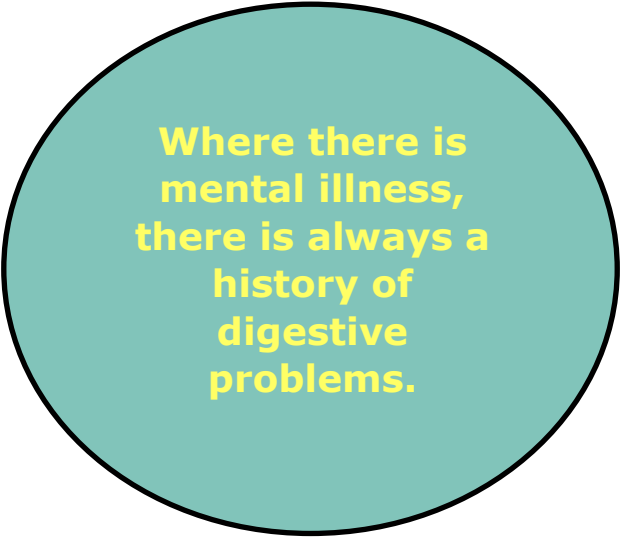
### Pros and Cons of Supplementation

**I was relieved to read** the pros and cons of supplementation—who should and who should not. For instance, she notes that tryptophan can aggravate asthma and should be avoided in pregnancy and with patients diagnosed with lupus. Taking excessive doses of 5-HTP (derived from L-tryptophan) can cross the blood brain barrier and is then converted to serotonin, which is useful for depression, insomnia, anxiety, and intestinal problems, she writes, but it can also lead to serotonin syndrome. I felt her information was detailed and balanced—not jaded to promote her perspective.

### A Personal Belief

**One reason this book resonated** deeply with me is my already firm belief that we are what we eat. My body has its own particular nutrient needs and food preferences. I feel the surge of irritability when my blood sugar drops, a sense of letting go and slipping away with that first sip of wine at the end of the day, and the overwhelming charge then precipitous drop when I eat sugar (without first preparing my system with a small portion of protein and complex carbohydrate). Food clearly influences my mood, my clarity, my focus, my motivation. Reading Dr. Korn's book augmented what I already knew and extended my knowledge.

**Her protocols fascinated me** based on my own recent diagnoses involving my thyroid, homocysteine levels, hypoglycemia and ongoing gluten sensitivities. I read her general guidelines for a hypoglycemic diet and other protocols, and I wondered which came first, the nutritional deficiency resulting in symptoms (i.e., anorexia, bulimia, depression, anxiety, alcoholism) or vice versa. For instance, she writes that eating disorders reflect complex nutritional imbalances



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digestive  
problems.



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(p. 88). So does the eating disorder create the imbalance of merely perpetuate what was there (and what may have prompted the issue at the start)?

Just out of curiosity, I traced the nutrients listed in her protocol for bulimia and binge eating (my dissertation involved chronic bulimia so I felt I had sufficient background). I looked for basic information about each nutrient as well as peer supported literature (though for commonly known nutrients such as probiotics, I left them alone). And while my research was not exhaustive, I learned that the supplements Dr. Korn included in this particular protocol have been shown to impact aspects of mental health and well-being commonly associated with bulimia (Table 7.25, pg. 29; see side bar below, For A Brief Review to read the results of my research into each nutrient on the Bulimia protocol).

### **Nutrients Help Your Brain**

Dr. Korn notes in her reflection (see page 30) that she's spent her life studying nutrients and health here, in the USA and in Mexico. She knows that what we eat can and does determine how we feel and in reverse how we

feel can also determine what we eat. Her background knowledge in terms of food and the chemicals in our brains and how they interact to keep us going throughout the day lends itself to the creation of her recommendations for assessment and intervention. There are countless small tidbits in overall scheme of this book such as: protein-rich foods increase tyrosine, dopamine, and norepinephrine, which help to increase alertness; certain health fats (omega-3 fatty acids) become part of the membranes of brain cells and control many brain processes; and poor nutrition or lack of a variety of healthy foods can contribute to depression by limiting the availability of these specific nutrients. Even my ophthalmologist recommended I take an Omega 3 supplement to address an eye issue I'm having. Every time I open this book, I learn something.

Basically, this isn't the kind of book you read once and set on the shelf; rather, it's a companion to reference throughout the day working with clients, listening to friends and hearing your own body speak.

*References on page 82*

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## **A Brief Review of the Protocol for Bulimia and Binge Eating Disorder following Table 7.25 in sequence**

**Complex vitamins and minerals with L-methylfolate**—folate is a B vitamin occurring naturally in food. Supplementation may support normal healthy mood, and cardiovascular and nerve function. L-methylfolate is important for the normal production of serotonin, norepinephrine and dopamine. It is purported to be an essential factor in converting homocysteine to methionine. The FDA has approved L-methylfolate for use with major depressive disorder, schizophrenia and high risk pregnancies (<http://www.drugs.com/mtm/l-methylfolate.html>). Papakostas et al. (2014), noted that patients with SSRI-resistant depression were responsive to adjunctive therapy with L-methylfolate 15 mg.

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**Omega-3 fish oil**—a polyunsaturated essential fatty acid noted to lower blood pressure, reduce triglycerides, slow the development of plaque in arteries, reduce chance of abnormal heart beat and reduce risk of heart attack (women with chronic bulimia die from heart attacks). It's also been associated with depression in adolescents with eating disorders (Sweene, Rosling, Tengblad, & Vessby, 2011) and to reduce symptoms of depression in folks with mood disorders (Ross, Sequin, & Sieswerda, 2007).

**Gamma linoleic acid**—an Omega-6 essential fatty acid that the body cannot make. It's noted to be crucial for brain function, and helps to stimulate skin and hair growth, maintain bone health, regulate metabolism and maintain the reproductive system. Preliminary clinical research suggests that it may be useful for those with depression, diabetic neuropathy, rheumatoid arthritis, allergies, ADHD, and osteoporosis (<http://umm.edu/health/medical/altmed/supplement/gammalinolenic-acid>). Its anti-inflammatory properties have been investigated (Kapro & Huang, 2006) and studies have shown its efficacy for anticancer intervention (<http://www.lifeextension.com/magazine/2011/1/the-beneficial-omega-6-fatty-acid/page-01>).

**Free amino acids**—singular molecules not already attached by peptide bonds to other amino acids. Essential amino acids—23—are considered the building blocks of life and support growth, repair and maintenance of about 1600 different types of proteins in human body including our muscles, connective tissues, hormones, enzymes, anti-bodies, hair, skin, nails and blood. They are not created in the body and must be replenished regularly to support optimal health, energy, strength, mood, and brain function.

**Probiotics**—live bacteria and yeasts necessary for healthy digestive system

**Vitamin D** is responsible for enhancing intestinal absorption of calcium, iron, magnesium, phosphate, and zinc

**Glucose Tolerance Factor (GTF)** is synthesized in vivo from absorbed dietary chromium, and acts as a physiological enhancer of insulin activity—it binds to insulin. It is well absorbed orally. Maybe useful in numerous ailments including diabetes mellitus, hyperlipidemia, reactive hypoglycemia, obesity, cancer, protein malnutrition or malabsorption, endogenous depression, Parkinsonism, hypertension and cardiac arrhythmias. GTF supplementation may also have value in preventive medicine (McCarty, 1980).

**Vitamin B6:** performs a variety of functions in the human body including protein metabolism, cognitive development, supporting immune function and maintaining normal levels of homocysteine (an amino acid) (retrieved from <https://ods.od.nih.gov/factsheets/VitaminB6-HealthProfessional/>)

**Magnesium threonine** is associated with stress levels. It can permeate the brain and enhance receptors associated with learning and memory. Therapeutic benefits have been noted with type 2 diabetes, premenstrual syndrome, migraines, fibromyalgia, and cardiovascular disease (Vink & Nechifer, 2011)

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Table 7.25: Protocol for Bulimia and Binge Eating Disorder

| Nutrients  | Dose:             |
|--|-------------------|
| Complex vitamin and minerals with L-methylfolate         | See Text Page 282 |
| Omega 3 fish oil   |                   |
| Gamma linoleic acid (GLA)/borage or evening primrose oil |                   |
| Free amino acids   |                   |
| probiotics   |                   |
| Vitamin D  |                   |
| Glucose tolerance factor                                 |                   |
| Vitamin B6   |                   |
| Magnesium threonate                                      |                   |
| Zinc   |                   |
| 5-HTP  |                   |
| Lactium  |                   |
| Inositol   |                   |
| Whey protein   |                   |

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**zinc**—an essential nutrient required for many physiological functions including immune and antioxidant function, skin health, sensory organs, growth, reproduction. Deficiency causes loss of taste and appetite, may be intimately involved with anorexia (eating disorders in general) (Shay & Magian,

**5-Htp** or 5-Hydroxytryptophan, also known as oxitriptan, is a naturally occurring amino acid and chemical precursor as well as a metabolic intermediate in the biosynthesis of the neurotransmitters serotonin and melatonin from tryptophan. Since serotonin helps regulate mood and behavior, 5-HTP may have a positive effect on sleep, mood, anxiety, appetite, and pain sensation. 5-HTP is not found in the foods we eat. Eating foods with tryptophan does not increase 5-HTP levels, however. Preliminary studies indicate that 5-HTP may work as well as certain antidepressant drugs to treat people with mild-to-moderate depression. (retrieved from <http://umm.edu/health/medical/altmed/supplement/5hydroxytryptophan-5htp>)

**Lactium** is a milk protein hydrolysate containing a bioactive peptide with anti-stress properties. <http://lactiuminfo.com/faq.html>

**Inositol**— Myo-inositol shows promise as a dietary supplement for promoting female fertility, restoring insulin sensitivity in instances of resistance (type II diabetes and polycystic ovarian syndrome being the most well investigated), and for reducing anxiety. Due to the mixed benefits to insulin resistance and fertility, myo-inositol holds some promise as an anti-depressant and against other conditions associated with anxiety such as panic disorders and binge eating. It is relatively ineffective for schizophrenia and autism, and has failed in treating PTSD despite its anti-panic effects. <https://examine.com/supplements/inositol/> Gelber, Levine, & Belmaker (2001) compared inositol to placebo in women (and one male) with bulimia or binge eating disorder. They found that inositol was significantly better than placebo on the Global Clinical Impression, Visual Analogue Scale and Eating Disorders Inventory.

**Whey protein** is one of the two proteins found in milk. And used as a protein supplement.