

# » You Can Help Nourish Your Child's Brain!

## AN OVERVIEW

**Close to a thousand years ago**, the Rambam told us that what we eat and how much we eat have a profound effect on virtually every body process. But it is only in recent decades that the medical community has begun to acknowledge that many physical and psychiatric illnesses that affect both children and adults are linked to nutritional deficiencies and imbalances. Behavioral and learning issues have also been associated with a child's diet, exercise and sleep regimens.

As a certified nutritionist, I frequently see children who are struggling with learning or psychiatric issues — everything from aggressive behavior toward teachers and parents (what we used to call *chutzpah*) to depression, anxiety, attention deficit and attention deficit hyperactivity disorder (ADD and ADHD), eating disorders and obsessive-compulsive disorder (OCD). The toll these conditions take on a child's academic performance, social interactions, and self-esteem can be profound. More often than not, these issues have an impact on the well-being of the child's entire family.

The good news is that positive lifestyle and nutritional changes can have a significant therapeutic effect on psychiatric and behavioral disorders. My files are filled with case reports that attest to the amazing transformations that can occur when significant modifications are made in a youngster's dietary intake and lifestyle behaviors.



## Cases in Point

*A distraught father came to see me about his nine-year-old son, Boruch (names and details have been changed throughout these case histories). The youngster was having trouble concentrating on his studies and had become quite disruptive in class. Getting his son to focus on his homework — or even sit still at the Shabbos table for more than five minutes at a time — was becoming more and more challenging.*

*The situation had become so bad, in fact, that Boruch's father was considering putting his son on medication. Before taking that step, however, he wanted to explore the possibility that his son's problems might be caused by underlying nutritional deficiencies. Did I think that modifying Boruch's nutritional intake might have an effect on his behavioral issues?*

*I did, indeed.*

*The regimen I developed for Boruch included a dietary plan, an exercise program and recommendations for*

improving his sleep habits. I also recommended he begin taking a comprehensive multivitamin/mineral capsule, omega-3 fish oil and a powder supplement that combines magnesium (known as the “anti-stress mineral”) and L-theanine (an amino acid that promotes relaxation and mental alertness). After just a few weeks, his father called to report that Boruch was already a calmer, more focused and happier child.

For 18-year-old Shlomo, yeshiva had become a place where he could expect only criticism and failure. In their frequent conversations with his parents, Shlomo’s rebbeim described the young man as “completely unmotivated.” According to his second-seder rebbe, Shlomo had actually fallen asleep in class on several occasions!

As in Boruch’s case, the regimen I developed for Shlomo focused on the essential pillars of health: nutritious diet (including supplementation with omega-3 fish oil and vitamin D), sufficient exercise and adequate sleep. Before long, Shlomo’s rebbeim began reporting significant improvement in his levels of concentration and overall attitude.

Still another case involved an eight-year-old boy with PDD (an autism spectrum disorder) whose extreme moodiness and anger was causing major discord within the family. After just four weeks on a special diet and supplement regimen, including omega-3 fish oil, vitamin D, calcium and a magnesium/L-theanine combination, his mood and behavior changed so dramatically, his doctors and therapists were amazed.



## (Healthy) Food for Thought

**Think about your own child’s** school

performance: Does he often find it hard to concentrate in class? Do his teachers report that

he frequently seems tired and moody? Does she often lack the energy to study for a test or complete a report?

Now think about this: Does your child often leave the house without eating a well-balanced breakfast? Does she frequently fail to get the recommended eight to ten hours of sleep? Is he getting at least 30 minutes of exercise a day? And finally, think about the possibility that poor dietary habits, including deficiencies in basic nutrients such as omega-3 fish oil, protein and minerals (much more about these later in the book); sleep difficulties; and a sedentary lifestyle may be at the root of your child’s academic and behavioral issues.

To appreciate the connection between nutrition and academic performance, it’s necessary to understand how nutrition affects the brain. Neurotransmitters — chemicals that allow communication to occur in the brain — control all aspects of behavior, moods, learning and concentration. Any deficiency in an essential nutrient can interrupt the natural balance of neurotransmitters and affect behavior, self-confidence, energy levels, the ability to focus and concentrate, and the ability to experience pleasure. In short, if the brain does not get proper nutrition through foods, and supplementation when necessary, chaos in the form

“If the brain does not get proper nutrition ... chaos in the form of brain chemistry problems and compromised brain function is likely to result.”

of brain chemistry problems and compromised brain function is likely to result.

More and more, studies are showing that children whose basic nutritional needs are met perform better academically than children with poor nutrition. In a report entitled *The Learning Connection*, Action for Healthy Kids (AFHK) summarized evidence demonstrating the link between weak academic performance and poor nutrition, inactivity and weight problems.

In the following pages, we will take a look at many compelling studies highlighting the connection between happy, academically successful kids and a healthy lifestyle.

But more importantly, we will present important information, recommendations and strategies for getting your kids on the right nutritional path.

So start reading.

Your child's healthy future begins today.

## Supplementation: Not a Quick Fix!

*While vitamins can be very beneficial for poor eaters who simply don't get enough of certain vital nutrients, it's important to remember that supplementation does not ever take the place of a balanced diet and should never be regarded as a quick fix for whatever ails. If you think your picky eater would benefit from a vitamin regimen, consult a health professional who can properly evaluate and address his nutritional issues.*

*Buying vitamins solely on the advice of a salesperson can be very expensive, ineffective, and, in some cases, downright unsafe.*

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## » Chapter I

### IN THIS CHAPTER

- // Dramatic rise in childhood psychiatric/behavioral disorders in the last 20 years
  - // To medicate or not to medicate?
  - // The effect of maternal dietary deficiencies on a baby's brain
- // The effect of childhood nutritional deficiencies on the architecture of the brain
- // The effect of environmental toxins on the brains of developing babies and children

## Nutrition and Mental Health: Connecting the Dots

As a parent, you know that even the happiest child can sometimes feel anxious or sad and that even the most focused child can occasionally find it difficult to concentrate. When these feelings are triggered by outside events — an upcoming test, for example, or a baseball game that went less well than expected — they are generally not a cause for concern (see sidebar).

But when a child is constantly struggling with irrational fears or is rarely able to focus on his schoolwork, there may be something more serious going on. The fact is that mental health issues among children are becoming more common, and many experts believe that poor dietary and lifestyle habits may be at least partially to blame.

But if poor nutrition and negative lifestyle behaviors can have a harmful effect on our children's well-being, then it stands to reason that improving their diets and changing their behaviors can have a beneficial impact.

First, a look at the disturbing statistics.

### Childhood Psychiatric Issues on the Rise

According to the latest report by the Centers for Disease Control and Prevention (CDC), 1 in 50 children in the United States are affected by autism and autistic spectrum disorders. The numbers mark a 78 percent increase since the agency's report in 2007.

The news is not much better where other childhood psychiatric and learning disorders are concerned; it is estimated that 15 million children in the United States are affected by psychiatric and learning disorders:

### **Attention Deficit/Hyperactivity Disorder**

ADHD is the most common psychiatric condition among children in the US. According to the CDC, ADHD affects one in five high school-age boys in the United States and 11 percent of school-age children overall (with boys accounting for a significant portion of that percentage). As many as 50 percent of children with ADHD are *never* diagnosed, according to a report in the *Harvard Mental Health Letter*.

### **Anxiety Disorders**

According to a report by the U.S. Surgeon General, the combined prevalence of the group of disorders known as anxiety disorders — which includes, among others, separation anxiety disorder, generalized anxiety disorder, panic disorder, social phobia, post-traumatic disorder, obsessive compulsive disorder (OCD) and Tourette syndrome — is higher than that of virtually all other mental disorders of childhood and adolescence.



## Does Your Child Have ADHD?

*Your child never seems able to sit still and pay attention to the story you are reading. What's more, he is quickly bored or frustrated with tasks and activities, rarely follows directions and often acts without stopping to think first.*

***Does he have ADHD? Maybe.***

*The behaviors described above can be normal in children. But if your child's symptoms of inattention, hyperactivity, and impulsiveness (the three categories into which ADHD symptoms are usually grouped) occur often and are so severe they interfere with his ability to function at school and at home, it's probably a good idea to have him evaluated.*

*While experts have not yet been able to pinpoint an exact cause for ADHD, several factors are suspected to contribute to the condition. These include heredity, an imbalance of brain chemicals that transmit nerve impulses, and brain changes in areas of the brain that control attention. Other factors that may contribute to the development of ADHD or may trigger symptoms include poor nutrition, infections, and smoking and alcohol use during pregnancy. It has been suggested that early childhood exposure to toxins, such as lead or PCBs, can also affect brain development.*



# Normal Anxiety or Anxiety Disorder?

**Anxiety is a normal reaction to stress and can actually be beneficial in some situations.** In a normal, short-term stress response, the body is flooded with adrenaline (also known as epinephrine) and cortisol, which are stress hormones produced by the adrenal glands. This helps the body's sympathetic nervous system (SNS) use energy to increase blood pressure and heart rate and slow down digestion, among other functions, allowing the body to either confront a perceived threat or run away from it. Other positive effects from the small increases of cortisol include heightened memory function, a burst of increased immunity and decreased sensitivity to pain.

But unlike the relatively mild, brief anxiety brought on by a stressful event — a big test coming up or the school championship basketball game — anxiety disorders last at least six months and can get worse if left untreated. While people with anxiety disorders may be fully aware that their anxiety is excessive and even misplaced, they may have difficulty controlling it, often to the point that their day-to-day living is negatively affected.

According to the U.S. Centers for Disease Control (CDC), anxiety disorders — these include post-traumatic stress disorder, obsessive-compulsive disorder, and panic disorder to name a few — are among the most common mental disorders experienced by Americans. Each anxiety disorder has different symptoms, but all the symptoms cluster around excessive, irrational fear and dread.



## **Depression**

According to the U.S. Department of Health and Human Services, studies show that one in every 33 children may have clinical depression at any given time, and the rate of depression among adolescents may be as high as one in eight.

## **Bipolar Disorder (Manic Depression)**

A report in the February, 2007 *Archives of Pediatrics and Adolescent Medicine* states that from 1994 to 2003, the number of children being treated for bipolar disorder increased 40-fold (20,000 in 1994 compared with 800,000 in 2003). *The Journal of the American Academy of Adolescent Psychiatry* reports that almost one third of six- to twelve-year-old children diagnosed with major depression will develop bipolar syndrome.

Despite these shocking statistics, Dr. Harold Koplewicz, founder of the New York University Child Study Center and a leading authority on child mental health issues, maintains that mental illnesses that “rob children of the ability to learn, make and keep friends and enjoy life” are under-diagnosed and under-treated.

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## To Medicate or Not to Medicate?

Ritalin ... Adderall ... Concerta ... Prozac ... Paxil ...

Zoloft ... Lexapro ... Xanax ... Ativan ... Klonopin ... Valium ...

Lithium ... Depakote ... Risperdal ... Seroquel ... Zyprexa

... Abilify. To many readers of this book, the names of

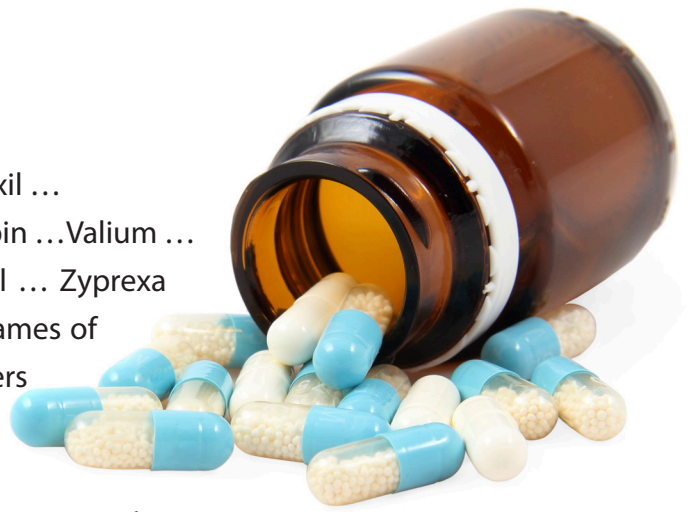
medications used to treat psychiatric disorders

ranging from ADD/ADHD, to depression, to

OCD, to bipolar disorder, are unfamiliar. To

many others, unfortunately, one or more of them represent

the difference between a well-behaved, well-functioning child and one who struggles, often unsuccessfully, to get through the day.



According to researchers at the University of Maryland School of Pharmacy, more than a half-million children in the United States are taking prescription medications to help control behavioral problems, while the National Institutes of Health (NIH) puts at one million the number of children taking prescription drugs for hyperactive behavior. Indeed, psychiatric drugs for American children are prescribed — not only by psychiatrists, but by pediatricians and internists! — at three times the rate of children in Europe.

As someone whose oft-stated professional objective is to “bridge the gap between medicine and nutrition,” I believe that medications certainly have their place in treating psychiatric illness, and I always advise parents of children with mental health issues to follow doctor’s orders. But nearly everyone — children and adults alike — has some kind of nutritional deficiency or imbalance that is compromising essential chemical reactions throughout the body. For optimal mental and physical health, the underlying deficiencies, and not just the symptoms, must be addressed.

## Healthy Diet, Healthy Brain

More and more, science is supporting a link between nutrition and common psychiatric conditions in children and adolescents. Indeed, studies have found that a generally poor diet during pregnancy, and maternal nutritional deficiencies in such vital nutrients as omega-3, folic acid and B12, in particular, can have a potentially adverse effect on a baby’s brain development. In fact, an exciting new field of study called epigenetics is proving that a baby’s genetic predisposition to physical and mental illness can actually be affected, both positively and negatively, by the mother’s diet and other lifestyle behaviors even *before* pregnancy.

In light of the growing body of research linking nutrition and mental health, many experts believe

that the dramatic increase in childhood psychiatric issues in recent years is largely due to the fact that Americans have gone from eating mostly whole grains, fruits and vegetables, healthy fats and proteins to diets overloaded with simple carbohydrates, refined sugars and unhealthy fats.

In a conversation I had with the National Institute of Health's Dr. Joseph Hibbeln, a leading expert on essential fatty acids, he shared with me his view that today's typical industrialized diet has the capacity to actually change the architecture and functioning of the brain!

It is interesting to note that Dr. Richard Heller and Dr. Rachel Heller — both of them professors at Mt. Sinai's School of Medicine who have evaluated and treated many children with a variety of emotional and learning problems — have, in many cases, documented dramatic positive psychiatric changes in children whose dietary habits were appropriately modified. In their book, *Carbohydrate Addicted Kids* (Harper Collins, 2010), the doctors explain how the overconsumption of foods like sugary snacks and cereals, fries, juice and soda (which can wreak havoc on insulin and blood sugar levels) can trigger a chemical imbalance that can lead to weight gain, mood swings, hyperactivity, and learning and behavior problems.

Dr. Martha Herbert, a pediatric neurologist from Harvard Medical School, is yet another expert who is changing the way childhood psychiatric disorders are viewed. In her view, autistic children stand to benefit from a diet that includes nutrients that boost chemical and immune processes that are often compromised in autism and eliminates foods that may have a detrimental effect. According to Dr. Herbert and other experts, even a genetic predisposition to a disorder can be modified through diet. As Dr. Herbert says, "foods can make the genomes cry or sing."

## Superfoods for the Brain

*Research is linking certain foods with better brain function.*

*Vegetables, especially cruciferous ones like broccoli, cabbage and dark leafy greens have been linked to improved memory.*

*Fruits such as blueberries and cherries, a rich source of anthocyanins and other flavonoids, may also boost memory function, as may avocados, bananas and cantaloupe.*

*Omega-3 fatty acid, which contains DHA, is considered a true "superfood" for the brain. Since DHA is the most abundant fatty acid in the brain, higher levels of DHA in the body and the brain will help the brain perform at optimum levels. Fish, such as sardines and salmon, is a great source of omega-3. If your kids don't consume enough of the natural sources of omega-3, consider adding an omega-3 supplement, which many kosher companies now make in kid-friendly flavors.*





## Health Tip

Research shows that some key nutrients contribute to the building of a baby's healthy brain during pregnancy. To help ensure that these nutrients do their job at the most critical time of a baby's development, it is crucial for women of childbearing age to take a specially formulated multivitamin that contains 800 mcg of folic acid, vitamin D3 and B12. And since studies have shown that omega-3 fish oil plays a major role in the development of a child's intelligence and memory, it is important for pregnant women to include omega-3 supplements in their prenatal regimens, especially during the last trimester.

# 5

## Foods

# Your Brain Loves!



### Blueberries

Brainberries! Learn more and move better. Adding a cup of blueberries to your day can improve your learning capacity and motor skills.



### Nuts and Seeds

An ounce of nuts or nut butter every day has the vitamin E to keep your mind sharp.

### Salmon

Think fast! Omega-3 lubes your brain and this fish has lots of it. A 4-ounce serving a couple times a week can help you study.

### Beans

Beans, beans, they're good for your... brain? Yes they are! A half-cup of beans every day can stabilize your blood sugar so your brain gets a steady supply of energy.

### Avocados

And who doesn't like guacamole? Half of an avocado a day is a good source of antioxidants, can help you absorb other nutrients and helps blood circulation.



# ESTIMATES OF U.S. CHILDREN

## with Mental Disorders

Attention-deficit/hyperactivity disorder<sup>1</sup>

**4.2 Million**

Behavioral or conduct problems<sup>1</sup>

**2.2 Million**

Anxiety<sup>1</sup>

**1.8 Million**

**1.3 Million**

Depression<sup>1</sup>

**1.2 Million**

Illicit drug use disorder (past year)<sup>3</sup>

**1 Million**

Alcohol use disorder (past year)<sup>3</sup>

Cigarette dependence (past month)<sup>3</sup>

**691,000**

Autism spectrum disorders<sup>1</sup>

**678,000**

**99,000**

Tourette syndrome<sup>2</sup>

<sup>1</sup> National Survey of Children's Health, 2007, Parent report of "current" disorder after reporting they had ever been told by a doctor or health care provider that their child had the disorder, for children aged 3-17 years

<sup>2</sup> National Survey of Children's Health, 2007, Parent report of "current" Tourette Syndrome after reporting they had ever been told by a doctor or health care provider that their child had Tourette Syndrome, for children aged 6-17 years

<sup>3</sup> National Survey on Drug Use and Health, 2010-2011, Adolescents aged 12-17 years reported on symptoms of conditions.



**U.S. Department of Health and Human Services**  
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