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Integrative Pediatric Mental Health (Assessment and Treatment Using an Ecological Perspective)

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KEY CONCEPTS

- Children are complex, constantly changing and have plastic brains of enormous potential. Remember that change and growth are the cornerstones of development.
- In all ecological models, any attempt to isolate and label individual pathology is less valuable than understanding the interdependent relationships that enhance or diminish the individual's ability to sustain the well point of true health.
- Clinicians must be trained in and aware of systems concepts as family dynamics are often playing a significant role in a child's emotional/behavioral struggles yet are often hidden, and difficult to fully appreciate.
- The current DSM-based diagnostic system is flawed and elicits grave concerns about the reliability and validity of these diagnoses as applied to children and teens, as well as concerns about the potential negative consequences of labeling, based on this system.
- In reviews of current pediatric psychopharmacology practice suggest we are prescribing well beyond our existing science. To some extent, this is being driven by desperation: the perception of inadequate alternative treatment options for children with emotional and behavioral challenges, in the face of escalating clinical needs and healthcare access limitations.
- Treatment must be strength-based.
- The process of mindful assessment and artful choices in integrative mental health treatment carry tremendous importance;

the mere substitution of alternative modalities for conventional medications is a tiny part of this process. Multi-modal treatments that respect the ecological nature of the child are most likely to be helpful in the long run.



Children's Mental Health

This chapter presents an overview of children's mental health from the integrative perspective. The author provides an integrative perspective for the evaluation and care of children that present with common mental health issues. The focus of this chapter is on depressive disorders, anxiety disorder, and bipolar disorder. The treatment of problem behaviors and attention disorders are explored more thoroughly in Chapter XX/YY. This chapter highlights the process of evaluating the whole child and selecting appropriate interventions. For a more in-depth review of the current evidence base for various interventions many other excellent resources are available (Kaplan & Shannon, 2007; Kemper & Shannon, 2007; Lake, 2007; Lake & Spiegel, 2007).

What Is Mental Health?

Mental health and mental illness are complex abstractions with little firm ground. In psychiatry we do not have clear guidance from cellular pathology, biochemical tests, or neuro-imaging. The human nervous system remains far too complex and variable for scientists to provide clinically useful precise biological explanations for mental health or illness.

Currently the pre-eminent model for understanding the etiology of mental illness is the stress-diathesis model. In this framework, we presume a baseline state of mental health unless compromised by the interaction of genetics and environmental stressors. Thus, the individual with their unique genitive predisposition (diathesis) encounters the unique environment found in that person's life. These environmental stressors trigger (presumably via genomics) the expression of underlying predispositions inherited in the genetic code. Sadly, this model has not demonstrated much useful clinical utility. It has yet to be structured in a manner that is that can be proved or disproved. To quote one recent integrative textbook, "Western psychiatry can be understood as an eclectic worldview that incorporates diverse psychological, social, and biological explanatory modes, none of which is verifiable and many of which are not even testable using existing empirical models" (Lake, 2007).

The Integrative model postulates that mental and emotional health is but one aspect in the continuum of health of mind-body-spirit. In this viewpoint the range of human

experiences (both in health and illness) can be thought of as a reflection of physical, mental, emotional, social, environmental, and spiritual hierarchies that are interdependent and interconnected. The essence of this model is ecological in that multiple nesting levels of levels of organization co-exist within each individual. The description of healthcare can also be explained using the ecological model. Health becomes the homeostatic point in which all of these nesting hierarchies are in a dynamic state of balance. Biological science is rapidly moving towards descriptive models of self-correcting systems and self-organization. These models also create our first demonstrable progress in outlining models of life itself. We know for example that ecosystems are self-correcting. The core foundation of all living organisms is the ability to resist entropy and move to more and more complex states. In this model, good health can be seen as the sustained ability to achieve an equilibrium that is stable within a narrow range.

Illness becomes any sustained deviation from this core state of balance whether biological, psychological, or spiritual. In this perspective, the delineation of endocrine versus GI versus neurological versus psychiatric, etc. is also rather arbitrary and often creates gaps in our understanding of the whole process. Processes that dysregulate often dysregulate more than one level of these linked human systems. Symptoms often cross these false boundaries as well.

Also, as the triggers for dysregulation can occur in any body system and be expressed on the neurological/psychological level. For example, many triggers can lead to the expression of ADHD symptoms of hyperactivity, impulsivity, and inattention in children. These include lead toxicity, closed head injury, food sensitivity, thyroid dysfunction, zinc deficiency, early malnutrition, iron deficiency, early sexual trauma, and Fragile X Syndrome. Many of our psychiatric illnesses can be best viewed as a final common pathway expressing dysregulation in the child's ecosystem. Using this model, the illness label holds less value than identifying (if possible) the triggers and supporting the systems return to a healthy state of balance.

Our Current Situation

Children bear a significant burden of psychiatric illness. There is mounting evidence that many if not most, lifetime psychiatric disorders will first appear in childhood or adolescence. Estimates of prevalence and incidence vary from site to site and study to study but the median prevalence of functionally impairing child and adolescent psychiatric disorders is 12% (Costello, Egger, et al., 2005).

Since 1991, 12-month rates of attempted suicide have remained constant at 8%, cigarette use has fallen steadily, use of marijuana rose through 1997 and since fallen while cocaine use doubled through 1999 and has held steady. Anxiety disorders have the highest prevalence at 8%, disruptive disorders at 7% and major depression at 4% (Costello, Egger et al., 2005).

The range in these studies can be enormous. For example, the prevalence rates of ADHD ranged from 1% to 13% with a median of 3%. With Bipolar Disorder, the current

situation is much less clear. Case definition and diagnostic criteria remain in flux. However, one recent study found a 40-fold rise in the number of children diagnosed with bipolar illness in an outpatient setting from 1994 to 2003 (Moreno, Laje, et al., 2007).

Worldwide psychiatric issues constitute a massive problem. Using disability as a measure of the burden of illness rather than mortality, psychiatric illnesses account for over 50% of DALY (Disability Adjusted Life Years). According to a recent WHO survey, American adolescents have the highest rates of depression, substance abuse, psychosomatic symptoms (headache, abdominal pain) and psychiatric medication use in the developed countries that were surveyed (Currie et al., 2004). The US consumes 80% of the world's stimulant medication.

Treatment in the United States remains problematic. Only 20% of children under 18 with significant psychiatric issues ever receive treatment. Children make up about one quarter of the population in the United States, but only one ninth of our mental health/substance abuse dollars go to this population in spite of a similar burden of illness and a vastly greater potential for real prevention (Costello, Egger, et al., 2005).

Unique Issues with Children's Mental Health

Children's mental health presents significant challenges for the primary care practitioner. Clinical manifestations vary according to the developmental stage of each child. The variety, complexity and variability of symptoms make children's mental health assessments more difficult than those of adults.

The first level of challenge can be found inherent in the complexity of the growing child. Children learn, adapt and change quickly. The 5-year-old child's brain has twice the neurons of the adult brain and is extremely dynamic and responsive to the child's environment. In fact, extreme plasticity may be the single greatest defining characteristic of the child's brain. This ability to adapt and respond to the varied environmental influences may be both the greatest strength and the greatest liability in the child's psychological/behavioral adjustment.

If the environment is positive, caring, supportive, sensitive, engaged, and appropriately stimulating the brain will respond with enhanced dendritic interconnections, cerebral blood vessels, self-regulation, cognitive depth and emotional reserve. On the other hand, if the environment is negative, conflictive, insensitive, disengaged, abusive, or inappropriately stimulating (excessive screen time, overt sexuality, and graphic violence) the brain will hardwire patterns of aggression, dysphoria, dysregulation, and learning problems that may become life long patterns. While these extremes represent the extremes of early environments, the situations that practitioners encounter may be unique combinations of both positive and negative influences. Children vary enormously in their reactivity to these environmental influences and in their resiliency.

Trauma, particularly chronic physical abuse or sexual abuse can profoundly derail a child's future. Bruce Perry, MD, PhD and others have demonstrated that these insults

in the first 5 years will profoundly alter neurological development. Perry has also demonstrated similar patterns with neglect; at times resulting in the loss of 30% of the neocortex (Perry & Pollard, 1998). These extreme cases often become chronic psychiatric patients because of their neurological adaptation to trauma and neglect. However, the real challenges for the primary care practitioners are the subtler, milder cases. For example, the mildly depressed mom who is often emotionally unavailable for her infant, or the alcoholic father that only binges once a month and then becomes loud, hostile, and threatening. What about the immature parents that rent violent and sexual movies to watch at home in the presence of their 5 year old? What about the overwhelmed single mom who repeatedly sets her 3-year-old in front of a 4-hour stream of “appropriate” children’s movies robbing him of emotional interaction? What about the violent and aggressive 6-year-old from “the good family” where the father is actually a tyrannical monster behind closed doors? These types of cases are all too common in practice and often fly under the radar of recognition.

All too often mild cases of trauma, abuse, and neglect go unrecognized. Hidden abuse, neglect, and trauma make it easy to blame the child and label it as psychiatric illness when it is, in reality, the marvel of neurological plasticity that presents our challenge.

It is crucial that we understand the plasticity of the child’s brain and hold awareness about the power of environmental factors such as nutrition, screen time, media content, parental mental health, social pressures, and trauma to alter the path of development. We need to move beyond blaming the brain, faulty genetics, and neurochemistry in cases of child psychiatric disorders. We must see that both parents and practitioners have the power to alter this early environment and significantly redirect the path of neurological and emotional development.

One of the most complex issues in children’s mental health rarely gets discussed. This relates to the parent’s mental health. Every parent brings his/her own individual issues into the marriage and into the family dynamics. These issues can be massive (such as alcoholism, severe depression, and recurring pattern of abuse, etc.) or they can be subtle. This section concerns the more subtle issues. The parents’ needs can drive some features of parenting and clearly color the concerns that bring the child into treatment. Parents become the agents of the child and they frame the treatment concerns. Sadly, sometimes the parents’ needs are so great they remain unaware of the child’s internalized suffering (anxiety, depression, Post-traumatic stress disorder [PTSD], etc.) Sometimes it is the fit between the child and the parent’s personality that is the real source of the problem. As practitioners, we must realize that the parent’s own issues affect their perspective and their expectations for their child. Often this dims the actual presentation. If we spend a few moments to assess this issue it may help us to intervene and understand the child’s needs more completely.

As we grow and mature, all individuals have a variety of unmet emotional needs. We all carry unfulfillable dreams: we really wanted to make a career move, we really wanted

to go to college, we really wanted to travel more, etc. Carl Jung MD said that there is no greater power in the psyche of an individual than their parent's unfulfilled dreams. These and other more subtle issues mix together in the marriage and affect how the child is raised. These expectations, hopes, wishes, and frustrations are different for every child. Often, most of these issues remain unconscious and outside the parent's awareness. Yet, it can have a profound influence on the growing child. Do parents (or parent) "need" this learning disabled child to be a superior student to get to law school (that dad never reached)? Do the parent(s) "need" this low motor skills child to be a competitive athlete? Do the parent(s) need this reactive and somewhat volatile child to be less like their own abusive parent? If we as practitioners can hold awareness of these parental dynamics in our awareness it will allow us to assess and treat the child more effectively.

Concerns: Conventional Care

The conventional approach to children's mental health presents some grave concerns for the integrative practitioner. These concerns cover both the diagnostic and treatment systems of modern day child psychiatry. This section will review a few significant concerns in each arena.

The diagnostic system for children's mental health is based on the criteria outlined in the *Diagnostic and Statistical Manual—4th Edition (DSM-IV)*. Psychiatry is the only specialty that does not base its diagnostic system on verifiable tissue pathology. There are no blood tests, brain scans, or other methods to verify psychiatric diagnosis. It is based on personal report, history from parents, interview, and personal judgment. Most of the psychiatric illnesses diagnosed in childhood are based on adult illness criteria that are extrapolated to children. A recent review article confirms a common perception that the reliability of clinical diagnosis remains poor in adult clinical practice (Aboraya, 2006). In child psychiatry the extrapolation of adult diagnostic criteria, the shifting cognitive depth of children, the high rates of co-morbidity (typically three axis I diagnoses per symptomatic child), and the presence of multiple developmental lines create a moving playing field that results in even lower rates of reliability. It should be noted that reliability is fair using structured clinical interviews that are not practical in clinical practice. Experts on DSM agree that the childhood portion of DSM is problematic and in need of significant revision (due in 2012).

The psychiatric label brings some benefits for the child: insurance reimbursement, proper treatment and prognostic guidelines (if diagnosis is correct). However, the diagnostic label also carries a number of negative consequences. These include the all too common concern when the diagnosis is incorrect. Children often outgrow problems quickly, one of the joys of pediatric practice. However, labels can endure and create inappropriate expectation or prognostic pessimism. For example, about one third of kids with Obsessive-compulsive disorder will remit naturally within 2 years. A label (even when correct) can overly narrow treatment when multiple issues exist and only one is identified. The label often creates damage to the child's self-esteem and carries

unfortunate stigma. Labels may all too often lead to a pharmacology-oriented approach that disempowers patient/parents and further narrows our treatment approach. Finally, in one of the bitter ironies of our dysfunctional system, a child may require one of a biological “parity” diagnosis to qualify for the highest level of insurance reimbursement. Yet, later this same label may be the source of insurance denial for any future coverage.

While most experts agree that diagnostic reliability in clinical practice of child psychiatry remains inadequate, the concerns over validity triggers even more debate. DSM has no theoretical basis and contains many different explanatory paradigms (psychodynamic, behavioral, biological, etc.). It is based on an outdated reductionist model that moves us further from the much-needed broader integrative/holistic perspective for the whole child.

Concerns: Treatment System

The conventional treatment system for children’s mental health turns to one of three common avenues of care: behavioral/parenting, psychotherapies, or pharmacological interventions. Recently we have seen a trend towards the increasing use of psychiatric medication in children and a relative reduction in other treatment options. Previously, federal monies provided the majority of financial support for psychiatric research, now the vast majority comes from the pharmaceutical industry. In a recent *New York Times* article, psychiatry was the specialty that had the highest level of financial support to doctors directly from the pharmaceutical industry (www.nytimes.com/2007/05/10/health/10psyche.html). These and a number of other complex factors have come together creating a strong push to medicalize and medicate behavioral issues in pediatric populations (For an excellent discussion of these topics see Diller, 1998, 2006).

In the last 15 years the use of psychiatric medications in children has more than tripled (Zito, Safer, et al., 2003). The use of anti-psychotic medications has risen five-fold from 1993 to 2002 and over 80% of the application of these medications is towards non psychotic indications. (Olfson, Blanco, et al., 2006) The use of psychiatric medications in a preschool (age 2–4 years) population are rising rapidly (Zito, Safer, et al. 2007). If these trends continue unabated, within 25 years over half of all American children will be on psychiatric medication. In the modern clinical practice of children’s mental health we have witnessed a dramatic escalation of pharmacological interventions and a narrowing of other treatment options. This narrowing of treatment and thought in conventional child psychiatry flies in the face of a neuroscience that acknowledges the responsiveness of the child’s brain (plasticity) and the ability of many external influences to alter the child’s gene expression (genomics).

Finally, the evidence base in child psychiatry fails to document either adequate efficacy or long-term safety from early and prolonged medications. This is a grave concern. Of all the categories of psychiatric medication in kids, only the stimulant category has adequate documentation of efficacy and safety in children. Some of the other categories, especially anti-psychotics have inadequate testing in children in every aspect: long-term

efficacy, short-term efficacy, short-term safety, and long-term safety. Some categories like SSRI anti-depressants have a mediocre efficacy record (only 1 of 15 anti-depressants have achieved an FDA indication for childhood depression) and a deteriorating safety record (black box warning for suicidality, persistent pulmonary hypertension in exposed neonates, etc.).

Another grave concern comes from the area of polypharmacy. This is one of the most notable trends in pediatric psychopharmacology. As of November 2006, we had 1.6 million pediatric patients on two or more psychiatric medications and rapidly climbing. (New York Times November, 2006 www.nytimes.com/2006/11/23/health/23kids.html) There is no science to support or encourage this trend.

An Ecological Perspective

Lead by the developments in modern physics, the clear movement in modern science has been away from narrow reductionistic and mechanistic models towards systems oriented, interactive representations. For example, we have moved from a simple mechanistic view of genetics to the much more interconnected and responsive systems perspective of genomics. In biological science we have learned that the more complex the system, the less helpful that reductionist analysis becomes. Theoretical physicist Frijof Capra (1996) said, "The great shock of twentieth century science is that systems can't be understood by analysis. The properties of the parts can only be understood from the whole." The child's brain is the most complex system in the known universe. A model that focuses on narrow biochemical pathology in the child's brain and responds with reflectively narrow biochemical interventions represents an outdated perspective. A more accurate and modern perspective would embrace the interconnected and adaptive value of context in the child's life. Ecological science is the epitome of this type of model.

Ecology arrived as an outgrowth of the holistic reaction to the extremes of biological reductionism in the early twentieth century. An ecological perspective provides the most useful and current scientific model for understanding the complex nature of childhood behavior, emotional health, and brain function. We must learn to assess the context of the child's life if we are to understand the responses of his/her central nervous system.

In an ecological approach, the outdated emphasis on pathology is replaced by a focus on neuroplasticity, adaptability, and reactivity. Children are magnificently responsive to the context in which they develop and function. Often, this environmental responsiveness may be the source of the "illness" that we identify. For example, excessive screen time that occurs early in development of neurological controls of attention, focus, and executive function may result in attentional adaptation towards narrowly focused, high-paced, electronic delivery (TV, video games, etc.) and away from the slower, but more complex, nature of typical human environment (classroom activities, story time, family life). This excessive early stimulation will make these children proficient at video games

but ineffective in classroom and prone to disorganization. Preliminary data supports this perspective (Christakis, Zimmerman, et al., 2004). PTSD is another possible example of disorder created by neurological and biochemical reaction to the environment. The trauma experienced by the child creates alternations in the neuro-hormonal milieu (i.e., increased cortisol), which, in turn, has neurotoxic effects in the hippocampus and other areas of the child's developing brain. This is why PTSD looks quite different when it develops in childhood as compared to PTSD that occurs in adults with a fully developed CNS.

Ecological Assessment

The key to understanding the child's unique ecosystem lies in the creation of a comprehensive model for assessment. The history of psychiatry moved forward notch by notch with the expansion of perspective (Freud's model of id, ego, superego, and the unconscious; the power model of Adler; the family systems model of Bowen; the biopscho-social model of Engel; the modern model of neurochemistry; etc.) The ecological model must be progressively comprehensive and inclusive. One such model would assess environmental, physical, mental, emotional, social, and spiritual realms, as key components of the child's ecosystem.

The environment would include a wide range of issues including such things as environmental toxins including mercury, lead, air pollution, and pesticides. It would also encompass the amount of sunlight and time in nature that the child experiences. The physical and emotional environments in the home are also other factors. Is the house cluttered, stressful, and noisy, or is it ordered, pleasing, and calm?

In the physical realm we would consider the biological family history of illness as this gives the best overall insight about genetic predisposition. The diet and ongoing nutrition of the child offers a crucial component. Both micronutrient and macronutrient patterns create the biochemical foundation for proper brain development. The personal history of illness offers critical understanding of physiological predispositions. The amount of sleep, exercise habits, relative fitness, and body habitus create the basis for proper stress management. Under this category we would also consider temperament and constitution, which are often underappreciated as significant physiological factors. Laboratory tests and issues related to chronic illness are considered here also.

The mental realm includes many factors commonly considered in the psychology of resilience. These would include the mental traits of positive mental attitude, engagement, and perseverance. Issues related to learning style (auditory, visual, kinesthetic, etc.) are also important. We must understand the learning preferences and challenges for every child. General consideration of cognitive capacity and formal learning disorders would also be included here. Stage of cognitive development, educational background, resources, and general level of intellectual stimulation all merit consideration. Finally, the level of perceptiveness, self-awareness, sensitivity, memory, and processing

speed also factor into the mental realm. Once we grasp the learning style and characteristics of the child we must assess the goodness of fit with their school. A misfit with school may lead a child to failure, despair, and psychiatric symptoms.

The emotional realm generally includes the level of emotional reactivity, emotional tone, and self-control. Prior trauma or losses will be crucial features to assess in this realm of the child's life. A chronic abuse or neglect history will create considerable liability for any child in the emotional realm. Every child has a different pattern of ambient mood and affect. How expressive is the child at a healthy baseline? Also of concern here is the emotional tone between the parents and the general emotional tone, supportiveness and acceptance found in the household(s). If divorced, are the parents supportive of each other or still at war?

In the social realm, the history, nature, quality, and depth of the parent-child bonds create a crucial foundation for the child's physical, emotional, mental, social, and spiritual health. The Harvard Mastery of Stress Study, which followed Harvard students from the 1950s into the 1990s, provided evidence for this. No other factor (smoking, blood-pressure, weight, etc.) offered better predictive quality for mid-life physical health than a self-perceived rating of parent-child closeness offered at the beginning of the study (Russek & Schwartz, 1997).

Beyond this, the nature, quality, variety, and stability of peer relationships are a crucial barometer of social health. An often-overlooked factor is the important role that adults other than parents play in children's lives: neighbors, family-friends, coaches, teachers, and pastors, for example. In an era when extended family plays less of a role in children's lives, these other adults can make a major difference to children. Various studies of resilient children have confirmed the powerful ability of one outside adult to turn a child's life around (Stewart & Sun, 2004).

Fit is another parent-child factor that carries significant weight in our assessment of the child. Every child is different. Parents with many children are aware that their connection, comfort, and ease of interaction vary from child to child. Most parents are more drawn to one child than another and this is perfectly normal. Fit becomes a practical concern only when there is a conflict in the fit between parent and child. We can call this bad chemistry or a personality clash, but when this occurs it stresses both parent and child significantly. Unless it is addressed well, the child will be much more likely to become labeled and pathologized. When the number of positive outside adult relationships is limited, more pressure is placed on the parent-child relationship, and there may be more problems when there is an issue of fit (personality/temperament clash). Factors of interpersonal awareness (sensitivity and empathy) should be assessed here as well. Traits such as introversion/extroversion provide more helpful information about how the child connects with others and her social world.

Modern medicine and psychiatry ignored the importance of spirituality for far too long. Only in the last 20 years has medicine begun to appreciate the power of faith, religion, and spiritual community. Families with an intact belief system are healthier,

happier, and more prone to stay intact. The specifics of the belief system do not seem to matter; rather the crucial factor seems to be regular attendance and active participation/practice for the family. Children seem to benefit in a wide variety of ways from the presence of an intact belief system and ongoing religious/spiritual practice.

The Treatment Plan

The treatment plan will flow naturally from the assessment. A broad and comprehensive assessment is crucial in understanding the child's ecosystem. Only then can we appreciate more of the contextual influences upon the child's plastic and responsive nervous system. True ecological understanding requires that we also appreciate the specific qualities of the child that drive the contextual responses. This is an area that is difficult to fully describe, as it is so specific for each child. Perhaps the best way in which to summarize the ecological assessment would involve a list of relative strengths and challenges for each child over the six realms. Thus, a hypothetical list might look something like for a 9-year-old boy presenting with attentional problems:

Environmental

- Strengths: lots of time in nature
- Challenges: chaotic, over-stimulated home

Physical

- Strengths: physically fit, constitutionally strong, athletic, negative family history
- Challenges: inadequate sleep, poor nutrition-excessive sweets in diet and inadequate protein

Mental

- Strengths: above average verbal skills, reading comprehension
- Challenges: slow in math, poor-fit with school

Emotional

- Strengths: strongly positive, joyful mood; positive supportive parental marriage
- Challenges: lack of emotional self-control, awareness

Social

- Strengths: broad range of friendships, close with both parents
- Challenges: tendency to be aggressive or impulsive with friends

Spiritual

- Strengths: generous and compassionate nature
- Challenges: lack of family spiritual practice

The treatment plan will flow from the information. Treatment in conventional child psychiatry has narrowed and is now mostly focused on symptomatic treatment of the presenting chief complaint. An integrative treatment model will consider the ecological

assessment above and address as many of these issues as is practical. The treatment plan must be comprehensive and reflect content.

The challenges must be supported and acknowledged. For example, with this boy an integrative treatment plan would attempt to calm the home environment, increase his sleep, improve his diet, consider his school fit, build emotional self-awareness, and improve self-control. The treatment must address crucial challenges or triggers. His strengths can function as crucial tools to help him navigate his current struggles: build on his athletic prowess for more success experiences; emphasize his strengths in verbal skills and reading in the classroom; leverage his friendships to support the needed changes in self-control and awareness; focus positive one on one parent time to coach and support homework and needed behavioral changes.

There can be no cookbook recipe here for different diagnoses. The ecological assessment is an inquiry in individuality and the integrative treatment plan must reflect that uniqueness and must be tailored to the child's own ecosystem.

The treatment plan must be prioritized. Obviously, we can't address every challenge and strength. Rather, we must focus on these issues that are the most relevant to the current concerns. For the boy in the example, his current spiritual challenge is a background issue. His presentation comes from the mental (school/learning) realm, so that will predominate. Physical (i.e., diet and sleep) and environmental issues typically act as a foundation (for positive or negative) of functioning and can be quite relevant to most issues. For this boy, emotional, and social issues are secondary. His treatment plan would prioritize environmental, physical, and mental interventions.

The treatment plan must also reflect the child/family belief system. For example, if a family has a strong belief in medications they would be prioritized. Conversely, if the child/family has a strong preference for a natural approach that avoids psychiatric medications, the practitioner should make every effort to respect those wishes in creating a personalized treatment plan.

Clearly, the child's ecosystem and central nervous system are rapidly changing and never static. We must recognize that diagnosis and presentation change rapidly. We should make every treatment plan as fluid and dynamic as the child is, and should reevaluate frequently.

Ecosystems are defined by complexity of inter-relationships. Thus, narrow, "silver-bullet" interventions rarely last. Multi-faceted interventions that reflect the complex relationships in the child's ecosystem are more likely to bring positive adaptation. Powerful, narrow interventions may carry many hidden long-range repercussions that we can't anticipate. For example, the developmental and neuro-endocrine effects of long-term use of psychiatric medications are mostly unknown. All care for children should embody the precautionary principle: employ extreme caution where the effects and risks are not established.

Finally, the treatment plan must honor the self-healing capacity of every child. Scientists now recognize that self-correction is a central quality of ecosystems. The

stronger and more diverse the ecosystem the greater the capacity there is for self-correction. In individual organisms we can describe this trait as homeostasis: the ability to maintain and self-correct an internal milieu.

The conventional model in child psychiatry places far stronger emphasis on models of pathology than on models of health. The ecological model is posited on the inherent self-correcting capacity of the ecosystem. Growing from the work of Nobel Prize winning chemist Ilya Prigogine (Prigogine & Geheniau, 1986), we now have chemical models of self-organizing systems. This ability to self-organize and self-correct is the basis of life and a crucial foundation for our approach to mental and emotional problems in children.

In summary, an integrative treatment plan should have the following characteristics:

1. Be comprehensive
2. Be contextual
3. Address challenges and triggers
4. Be strength-based
5. Be individualized
6. Be prioritized
7. Be dynamic
8. Be multi-faceted
9. Honor self-healing capacity
10. Respect the belief system of the child/family

The treatment plan can be integrative as well. This can mean a combination of ecological care and allopathic care. Allopathic treatment models (against illness) are typically symptom focused and narrow. The integrative model allows us to judiciously combine broader ecological interventions with allopathic approaches. Interestingly, many of the common complementary and alternative (CAM) approaches are actually allopathic in nature. For example, St. John's Wort (SJW) is a symptom-based herbal intervention for depression that treats the signs and symptoms of this mood disorder. SJW does not address the ecological nature of depression or correct fundamental deficiencies in the same way that B vitamins or essential fatty acids do. Furthermore, there has been no randomized controlled trial of SJW in young children. Thus, SJW can be considered an herbal form of allopathic (against illness) intervention. In the integrative model, allopathic interventions are not negative, merely narrow in scope.

The Issue of Diagnosis

In an ecological model the tendency to find isolated distinct pathology in the child is greatly diminished. Rather, the pathology becomes the negative context and forces

that elicit the current response. Obviously, the child and the environmental influences interact to create a specific response. Although we can characterize the response of the child with a psychiatric label, it is more helpful to understand the child and their context (nutrition, family dynamics, learning style, social connections, etc.) if we are to move towards anything more than simple symptomatic control. A much deeper level of treatment flows from the ecological model that begins to appreciate the triggers for symptom expression. Once addressed, these triggers will diminish and symptoms will then abate reflecting the self-correcting nature of the human brain. For example, a child with a conflictual fit with one parent and a poor fit in his school will often become depressed. Rather than move to treatment with a serotonin reuptake inhibitor such as fluoxetine, address the issues of fit and the depression will improve on its own accord without pharmacological support. Simple pharmacotherapy alone may simply mask the reasonable response to the unreasonable context in which the child is immersed.

Given the malleable and plastic responsiveness of the child's brain, simple generic labels that identify the broad type of symptomatic presentation that the child presents with (i.e., mood, anxiety, disruptive, or attentional) may be the most accurate. We should move to a more specific label with a child only when it designates a specific, safe, and well-proven treatment. OCD is one example (exposure and response prevention). In psychiatry, we have a large number of diagnostic categories and very few specific treatments. For example, SSRIs are used in mood disorders, anxiety disorders, eating disorders, and sexual dysfunction. Anticonvulsants are used in epilepsy, mood disorders, and aggressive dyscontrol. Antipsychotics are used in schizophrenia, mood disorders, and disruptive disorders.

Facets of Integrative Treatment

By its very nature, the integrative treatment of pediatric mental health issues is broad, diverse, and creative. The number and variety of treatment options are vast. This section will provide a brief overview of the major categories and a few of the specific treatments approaches within each category.

Lifestyle interventions include interventions that improve the quality and duration of sleep (such as proper sleep hygiene and focused cognitive behavior therapy, CBT). Exercise and activity that improve fitness can range from recreational soccer to kick boxing classes to local swim teams. High levels of screen time have been shown to relate to high levels of levels of obesity (Crooks, 2000). A family hike or bike ride each weekend benefits children in a number of ways. Finally, something called social rhythms therapy has been proved to benefit bipolar illness by enhancing stability and predictability of basic routines in the individual's life (Frank, Kupfer, et al., 2005). Simply having set and predictable wake time, bedtime, meal times, and bath time improves emotional stability in bipolar patients. In a German study, intensive lifestyle therapy improved depression as well as counseling and medications (Hamre, Witt, et al., 2006).

Personality factors can play a huge role in how resilient or resistant to stress children are. If parents can role model positive mental attitude and engaged problem solving in their own lives this will have a beneficial effect for their children. Furthermore, parents can encourage their children to take reasonable risks and be prepared to watch them fail occasionally. In this circumstance, step back and focus on problem solving and re-engagement. Emphasize the process itself.

The child's diet and nutrition creates the foundation for structure and function in the developing CNS. Diet has a pronounced and pervasive influence on both the developmental and treatment of psychiatric symptoms. Examples include the corrective power of B vitamins, minerals, essential fatty acids, and combinations formulas on mood (Kaplan & Shannon, 2007) as well as the effects of food additives on attention (McCann, Barrett, et al., 2007). There are many examples of a nutritional deficiency model in which the patient's illness can be viewed as in-born errors of metabolism secondary to genetic idiosyncrasies or single nucleotide polymorphisms (SNPs) (Kaplan, Crawford, et al., 2007). These enzymatic inefficiencies make some children much more prone to symptomatic expression with a typical American diet. The treatment options either dramatically enhancing the available metabolic endpoint to overcome these metabolic inefficiencies or to supply the needed endpoint products themselves. For example, imagine that young Johnny has a strong family history of mood disorders that revolve around a SNP inefficiency of omega-3 EFA metabolism. Treatment could involve either a diet high in flaxseed (omega-3 precursor) or merely supplying the omega-3 metabolites (EPA and DHA) directly for CNS function.

Key: Improvement of diet alone is typically not enough for most symptomatic patients and supplementation is required for effective correction of these in born errors of metabolism.

Some children will have food sensitivities or food allergies that cause alterations in mood or behavior (Bischoff, 2007; Teufel, Biedermann, et al., 2007). About 6%–10% of children have either allergies or sensitivities to food and about 1% cannot tolerate gluten (Bangash, 2005). The most common sensitivities are dairy, wheat, corn, soy, eggs, citrus, tree nuts, peanuts, and shellfish. Some indicators of food related problems include family history of allergy, history of eczema or colic, chronic abdominal pain, long bone pain, bad breath, bad foot odor, insomnia, chronic headaches, or rhinorrhea. If a patient has two or more positives, consider an elimination diet or referral to a nutritional specialist.

Multivitamin combination formulas have demonstrated significant value in a wide range of problems including bipolar disorder, behavior disorders, and cognitive functioning (Jiang, 2006; Kaplan, Crawford, et al., 2007). Five studies documented here represent RCTs. Geseh (2002) gave juvenile offenders a vitamin, mineral and EFA combination and found significant reductions in violent acts and rule infractions. Four peer-reviewed studies in psychiatric journals have indicated significant benefit from the

use of a proprietary vitamin mineral supplement called EM Power in bipolar disorder (Kaplan, Crawford, et al., 2007).

The number of studies exploring the value of essential fatty acids (EFAs) has mushroomed in the last 5 years. The current database provides strong evidence that EFAs play a crucial role in cognitive and emotional functioning (Freeman, Hibbeln, et al., 2006; Peet & Stokes, 2005). Eicosapentanoic acid (EPA) appears to play a pre-dominant role in the mood disorders while docosahexanoic acid (DHA) plays a more pronounced role in cognitive development and learning disorders. These Omega-3 EFAs form the foundation of neuronal development in the young child's brain. They are crucial for both the structure and function of all neurons secondary to their role in phospholipids and the second messenger system.

Recent studies indicate that children's diets are not balanced and only 1% meet food pyramid guidelines. A JAMA review article (Fletcher & Fairfield, 2002) found that sub-optimal intake of micronutrients was a risk factor for chronic illness and data supported the use of vitamin supplementation as a tool to reduce chronic illness in adults. Given the dramatically elevated nutrient demands in the pediatric population the conclusion seems clear: all children, particularly those with mental health issues should take nutritional supplementation as a core facet of their care and treatment.

The family arena plays a central and crucial role in the child's emotional development. This includes a variety of family issues including parenting skills, parent-child fit, marriage, and support/acceptance. The modern shift towards biochemistry has unfortunately diminished our appreciation for the fundamental power that family interventions carry for symptomatic children.

Parenting skills often reflect the ability to be firm, consistent, and positive in limit setting and boundaries. These issues are most pronounced for disruptive and explosive children who are out of control. Often a depressed primary care giver feels overwhelmed. A number of recent studies document the increased risks for psychological diagnosis in children who live with a depressed mother (Hammen & Brennan, 2003). The risks include not just mood disorders but behavioral and attentional disorders as well, further documenting the ecological nature of children's mental health. These studies also document that a substantial portion of children lose their label if mom improves (Weissman, Pilowsky, et al., 2006).

Parent-child fit involves the comfortable blending or clashing of personalities, temperaments, and styles of a parent with a child. Most often it is not an issue. However, when present it can drive many psychiatric problems. Fit can often be labeled as psychiatric illness and may at times represent a scapegoating of the child.

The quality and emotional tone of the marriage creates a pervasive and forceful influence for every child. A positive, loving, supportive and understanding marriage radiates innumerable benefits to the child. Conversely, a high conflict divorce with custody battles may be the most emotionally damning family experience possible. Our work lies between these poles. Do not lose sight of the value of marital therapy for pediatric

mental health issues, as it is not easy to appreciate the style and tone of a marriage from the vantage point of an office visit with a younger child.

In some ways, all of these family issues come back to the parents. They may be ignorant of specific skills, or their individual emotional development may be compromised in some way. This, in turn, may have adverse effects on the marriage and on their children. Parenting challenges our own emotional health and offers deep rewards if we meet these challenges with real awareness. When addressed with awareness parenting can burn away our own narcissism and selfishness, open our heart and can tear at our emotional scars. The book *Parenting from the Inside Out* (Seigel & Hartzell, 2003) explores this complex topic well.

The primary job of every school-aged child is that of student. Children who find school easy and fun have less emotional and behavioral concerns. Personality factors, cognitive factors, and specific learning styles play a key role in this process. The two crucial personality traits are introversion/extroversion and approach/avoidance. The introverted, avoidant or anxious younger child may struggle with school. He or she may do better with smaller schools and need more help with transitions. The Small Schools Project (smallschoolsproject.com) has documented that children attending small schools do better in performance, attendance and graduation rates (Cleary & English, 2005).

Parents and professionals should keep a watchful eye on the fit of this child with the schooling process. The cognitive issues often encompass general measures of intelligence and specific learning disorders. The child that has subnormal or gifted intelligence will require special support and consideration in school selection.

Finally, the specific learning style of each child will determine what type of school and curriculum path will be most optimal. Learning styles vary from child to child. A child may be a visual/verbal, visual/nonverbal, auditory, or kinesthetic learner. Experts also now recognize many types of basic human intelligences (Gardner, 1983, 2004). These include logical, linguistic, musical, kinesthetic, spatial, interpersonal, intrapersonal, and naturalistic. We will tend to find a child's gifts, and joys strongly connected to their innate preferences in this arena. The combination of intelligence type and learning style will determine the best school fit for the child. Poor school fit (a child with musical and physical gifts who is a kinesthetic learner placed in a rigorous narrow "college prep" school) will create an increased likelihood of psychiatric symptoms. Parents should be encouraged to understand the power of intelligence type, learning style and school fit, and follow the child's passions and gifts.

Environmental Issues

Environmental issues are increasing threats to the health of children in the twenty-first century. As considered here, the environment includes the chemical environment (pesticides, herbicides, heavy metals, chemicals like bis-phenol A, etc.), psychological environment (television, print, internet, etc.) and the sociocultural environment (poverty,

materialism, sexuality, commercialism, violence, sexism, etc.). Increasingly, all those caring for children must actively advocate for the identification and removal of toxins in whatever form they take. It is clear that the pervasive reach of these toxins exact a massive toll on our children's mental health.

Children vary widely in their exposure to these issues and their susceptibility to the burden imposed. We must be creative, educational and persistent in our role as advocates for health. We often fail to make the connection between these environmental toxins and psychiatric symptoms. We have evidence that lead toxicity debilitates attentional skills all the way down to our lowest measurable threshold (Banerjee, Middleton, et al., 2007; McMichael, Baghurst, et al., 1994). We have strong evidence that exposure to violence is associated with violent behaviors. Some of the issues here are controversial (the neurological effects of EMF) while others are very difficult to measure (the pervasive sexualization of our culture). The best direction here is to individually assess each child's environment, assess the symptom pattern and forcefully advocate and intervene for the child as indicated.

Psychotherapy

In the treatment of mental health issues in children we have a wide array of therapeutic tools. Psychotherapy has a long-standing traditional role. The psychotherapeutic modalities vary by age, level of parental involvement and philosophy. In general, the younger the age of the child the greater the level of parental involvement indicated. For example, when addressing a behavioral attachment issue with a 4 year old, the vast majority of the work should be with the parents. However, if dealing with existential depression in a 17 year old, the majority of the work will be with the teen.

Children vary widely in the ability and inclination to participate in verbally based psychotherapy. Many boys don't fare well with this modality. Play therapy has a role with young children. If behavior problems are part of the presentation, it is important to also teach parenting skills. In general, the more behavioral issues, the more parental involvement required. Often, this will require family therapy for the preteen and teen. Marital therapy is a must if the level of tension and hostility is high or sense of connection is low in the marriage. Family therapy is an underutilized modality. Group therapy, an extremely powerful tool for teens, is also significantly underutilized.

Recently, we have witnessed the emergence of a variety of approaches based on the principles of mindfulness. Dialectical behavior therapy (DBT) is the most prominent. This evidence based technique combines aspects of CBT and mindfulness. The majority of the early research involved adult patients with Borderline personality disorder (Linehan, Armstrong, et al., 1991). However, it has shown great promise in mood disorders and suicidality. A variety of pilot studies in pediatric populations echo the nine positive RCTs for adults. Recent studies have documented improvements in the pediatric age range for a variety of problems based in mood, affect, or behavioral regulation. Often run in groups, DBT is really a training course in the enhancement of

self-awareness and self-regulation (Rathus & Miller, 2002). This modality is highly recommended. In many ways DBT is closer to psycho-education than to psychotherapy.

In general the key issues in psychotherapy involve the proper fit of personal chemistry, parental involvement, therapeutic style, and specific skill set with the child's issues. For OCD the therapist should be skilled in exposure response prevention (ERP) as this is a proven and specific skill set (Bolton & Perrin, 2007). The therapist must monitor responses and be quite willing to recommend change for lack of fit or progress. Three-month blocks are adequate for periodic reassessment. Psychotherapy is not useful for every child but if trauma, anxiety, or depression are present than a trial is usually warranted.

Eye movement desensitization and reprocessing (EMDR) is a relatively new psychotherapeutic technique that involves the use of eye movements across the midline with some verbal or internal processing. The evidence base is strongest in the trauma and PTSD but appears to have value for anxiety disorders and perhaps mood disorders as well (van der Kolk, Spinazzola, et al., 2007).

NON-TRADITIONAL THERAPIES

Art, music and dance therapies are non-traditional therapies that may have a role in the treatment of children. The evidence base is currently small but promising (Whitehead-Pleaux, Zebrowski, et al., 2007). Many children do not process auditory information very well and these modalities offer excellent alternatives. Also, if the child has an artistic, musical, or kinesthetic gift/interest, than these referrals may be extremely useful on many levels.

Another underappreciated tool is the therapeutic use of the outdoors and adventure. Experiential therapy, adventure therapy, or outdoor education can be another amazing tool in the positive transformation of a child. These experiences can help alter the perspective and mindset of a depressed or substance abusing teen. They can also function as a positive anchor for a teen growing up in a highly dysfunctional family. The downside is that they are often expensive and time limited. So after-care and continuity are crucial. The most successful treatment recommendations are often creative and intuitive, based upon the unique make up of the identified patient.

Mind-Body Therapies

Practitioners have a wide range of mind-body tools to choose from. The specific techniques range from the ancient (Tai Chi and meditation) to the modern (biofeedback and guided imagery). Hypnosis and relaxation skills can help children deal with a variety of issues including pain and anxiety. Meditation and mindfulness skills have been well researched and appear to improve nearly every measured mediator of autonomic balance and psychological health (Grossman, Niemann, et al., 2004). Mindfulness skills can even be adapted for use with prepubertal patients (Ott, 2002). Tai Chi and mindfulness have been successfully demonstrated in a Boston Public Middle School (Wall,

2005). A variety of mind-body techniques significantly reduced the symptom load of students in war torn Kosovo (Gordon, Staples, et al., 2004). Relaxation therapy proved to be as effective as CBT in a RCT of 30 depressed adolescents (Reynolds & Coats, 1986). Given that most mental health problems are associated with increased levels of stress, mind-body skills can be a useful adjunct for many symptomatic children.

Biochemical Therapies

Psychiatric medications and herbal preparations constitute the bulk of biochemical therapies. Compounds found naturally in food are considered nutritional supplementation for this discussion. Psychiatric medications do play a role in the integrative treatment of pediatric mental health issues. The optimum approach may be a three-tiered treatment plan. The first tier prioritizes safe educational, environmental, lifestyle, family, diet changes and nutritional approaches. The second tier can be other therapies including mind-body, herbal remedies, psychotherapies, and other CAM modalities. Psychiatric medications fall into the third tier because of the elevated levels of risk and power. An exception may be made for families that have a belief system favoring prescription medication or rejecting CAM approaches. In these cases the first tier of care should remain the same.

An integrative approach to the use of psychiatric medications in pediatric population involves seven basic principles:

1. Use low doses. Engage the power of the placebo to the benefit of all. Use the power of suggestion.
2. Advance doses slowly. Allow the body and nervous system time to adjust.
3. Drug holidays. Once or twice a year assess the child's symptom level by slowly tapering the dose and monitoring symptoms.
4. Multi-modal care. Never make psychiatric medications the sole approach.
5. Use targeted nutritional adjuvants. For example, B vitamins and folate should always be given with anti-depressants in order to enhance response and reduce the doses required.
6. Avoid poly-pharmacy whenever possible. We simply have no science to guide us.
7. Employ physiological supports. For example, use Omega-3 oils with neuroleptics (black box warning for weight gain and Type II diabetes) to reduce the risks of hyperlipidemia.

Herbal remedies contain both new and time-honored interventions for mental health. Saint John's Wort has a substantial and growing evidence base for use in depressive disorders (Linde & Knuppel, 2005) including three open trials. Kava-Kava has found a rather recent appreciation for its benefit in anxiety disorders. Whenever possible use the same preparations that have been involved in the key studies for a particular herb.

For example, when possible employ the same SJW formulation used in many of the prominent controlled trials. Finally, realize that quality varies widely for herbal preparations. Choose brands known to emphasize quality control, periodic assays, and product monitoring. This may often result in narrow brand recommendations and higher price range. Random retail surveys of herbal preparations demonstrate a disturbing range of product quality (ConsumerLab.com). *Caveat Emptor*.

Energy

A wide range of energy-based modalities can be applied to benefit mental health concerns. These approaches include the use of light, electricity, and human energy (Chi, prana, etc.). Light therapy has a proven role in treating mood disorders (with or without a seasonal rhythm). A recent meta-analysis of randomized controlled trials of light therapy found bright light treatment for non-seasonal depression is effective, the effect size being quite similar to that for anti-depressant trials (Golden, Gaynes, et al., 2005). Cranial electrical stimulation (CES) involves the use of low voltage, low amperage current from one ear lobe to the other. Previously called electro-sleep, this little used therapy has good evidence that it can reduce anxiety and improve mood (Passini, Watson, et al., 1976). Qi Gong is an ancient Chinese martial art that develops skills and awareness in the internal manipulation of the body's own energy (Chi). Qi Gong has wide ranging evidence supporting its value for a range of mental health issues (Shannon, 2002). Therapeutic Touch is a gentle physical technique often practiced by nurses in health care settings. There are no RCTs with children for these therapeutic modalities. Daylighting, the enhanced natural sunlight in classrooms has been found to improve school performance, reduce illness, and improve attendance (Manuel, 2003).

Biomechanical Modalities

Only a few of the available biomechanical therapies have been evaluated in psychiatric illness. Therapeutic massage promotes positive changes in a wide variety of physiological measures: blood flow, muscular relaxation, autonomic balance and lymphatic drainage. In one study of massage in depressed patients it decreased cortisol levels and improved the levels of serotonin and dopamine (Field, Hernandez-Reif, et al., 2005). Massage reduced aggression in adolescent inpatients (Diego, Field, et al., 2002). A brief daily back rub reduced anxiety and improved cooperation in child and adolescent psychiatric inpatients (Field, Morrow, et al., 1992). The infants of depressed mothers derived significant benefit from maternal massage with higher scores on a variety of measures in the Brazelton scale (Field, Hernandez-Reif, et al., 2006). Given the persistent and significant negative effects of maternal depression (Weissman, Pilowsky, et al., 2006), this approach can support the infant's well-being into the future. In massage, the specific technique appears to be less important than the gentle, caring touch of a concerned attentive adult. Parents can be easily taught to touch and soothe their children. A prior history of physical or sexual abuse makes the application of "good touch" both

more important and challenging. Osteopathic cranial manipulation may offer considerable benefit to children with a history of birth trauma, chronic headaches or severe learning disabilities.

Traditional Modalities

Acupuncture, homeopathy, and ayurvedic medicine form three of the most important time honored approaches to healing. Acupuncture has a growing research base with evidence building for its effectiveness with both depression and anxiety. A systematic review of randomized controlled trials of acupuncture of depressed adults suggested significant benefits equal to those of anti-depressant medications (Leo & Ligot, 2007). Another meta-analysis (Mukaino, Park, et al., 2005) found that electro-acupuncture was as effective as anti-depressant medications. Kemper (Kemper, Sarah, et al., 2000) demonstrated that acupuncture was well-received in a pediatric population. Other studies have found reduction in anxiety following acupuncture (Karst, Winterhalter, et al., 2007).

Symptom Oriented Treatment

In an ecological perspective the treatment of mental health issues moves from a diagnostically based treatment model to a symptom-based model. In this way the treatment becomes more dynamic, more personalized and less rigid. This approach also tends to reduce our narrow use of psychopharmacology. As previously mentioned, the treatment plan must be comprehensive and prioritized, emphasizing the realms in the child's life that have the most distress. Given all of this, each treatment plan will be quite unique and individualized. This section will present treatment plans for broad symptoms emphasizing commonly employed approaches with an evidence base. These lists are meant to be a general guide to be customized for the individual child or teen.

Symptom-oriented treatment

1. Depressed mood (flat, slowed, apathetic)
 - a. Environments: sunlight, light therapy (30–60 minute 10,000 lux, in am), pets, atmosphere of joy and support in home. Reduced screen time.
 - b. Physical: aerobic exercise (20 minutes, 3–4 times a week). More physical activity, B vitamins (B-complex 50 mg with 1 mg of folate), Omega-3 oils (1–2 g of EPA), chromium picolinate (400 mcg BID—atypical depression, hypersomnia/hyperphagia). SAMe (200–600 mg BID on empty stomach). Vitamin C (1000 mg in AM). Dietary improvements (enough protein and reduce sugar). Acupuncture trial (teens).
 - c. Mental: psychotherapy (CBT), proper fit in school with learning style and support of specific intelligence, gifts, talents, etc.
 - d. Emotional: expressive therapies: dance, art, music, family therapy, group therapy

- e. Social: recreation, sports, church groups, social skills groups (younger kids), after school clubs.
 - f. Spiritual: forgiveness, gratitude journal, proper religious attendance, volunteer work.
2. Depressed mood (agitated, irritable)
- a. Environmental: sunlight, light therapy (30–60 minutes in AM; 10,000 Lux), time in nature, pets, atmosphere of peace and harmony in home. Reduction of screen time.
 - b. Physical: physical activity (walking, hiking, etc.) aerobic exercise (20 minutes 3–4 times per week), dietary improvements (reduce sugar, eliminate caffeine), B-complex (50 mg with 1 mg of folate). St. John's Wort (900 mg per day of quality product divided BID). Inositol (2–4 g BID or TID), EPA (1–2 g of EPA), Vitamin C (1000 mg in AM), 5-HTP (50–200 mg BID). Acupuncture trial (teens), massage therapy. Support of proper sleep hygiene.
 - c. Mental: psychotherapy (DBT, CBT, or Hakomi), relaxation therapy or mindfulness practice or Tai Chi, proper fit in school for learning style. Support of specific intelligence(s), gifts, talents.
 - d. Emotional: expressive therapies: dance, art, or music. Family therapy. Group therapy
 - e. Social: recreation, sports, church group. Social skills group (younger kids), after school groups.
 - f. Spiritual: forgiveness, gratitude journal. Prayer. Religious services. Volunteer work.
3. Mood dysregulation (rage, lability, aggression)
- a. Environmental: social rhythms therapy (enhanced predictability of sleep, meals, and other routines), sense of peace and harmony in home. Reduction of screen time. Pets and time in nature. Elimination of violence (TV, video games, DVD, etc.).
 - b. Physical: physical activity. Aerobic exercise (20 minutes 3–4 times per week), dietary improvements (reduction of sugar, eliminate caffeine, more complex carbohydrates) EFAs (2–4 g of EPA per day). EM Power Plus [proprietary vitamin mineral product tested in bipolar disorder] (5 capsules three times daily). Massage therapy. Inositol (2–4 g TID).
 - c. Mental: psychotherapy (DBT), relaxation therapy, mindfulness practice, martial arts, proper fit in school for learning style. Support of specific intelligence(s), gifts, talents.
 - d. Emotional: experiential therapies: dance, art, music. Family therapy. Group therapy.
 - e. Social: recreation, sports, church groups, social skills group (younger kids), after school clubs.
 - d. Spiritual: gratitude journal, prayer, religious services, and volunteer work.

4. Anxiety
 - a. Environmental: strive for a calm, peaceful, predictable home life. Parents should role model peace, calm and practice relaxation skills themselves, Pets, Avoid media violence, emphasize positive and relaxing entertainment, time in nature
 - b. Physical: enhanced physical activity: swimming, walking or biking. Dietary improvements: reduce sugar, eliminate caffeine and adequate protein. Vitamin C (1000 mg), B-complex (50 mg), Inositol (2–4 g two or three times daily). L-Theanine (100–200 mg) twice daily. Consider 50 to 150 mg 5-HTP twice daily. Massage therapy. Consider Acupuncture if acceptable.
 - c. Mental: relaxation training or Tai Chi or Mindfulness meditation. Psychoeducational formats (books, DVDs, etc.) to enhance knowledge of anxiety and coping techniques. Adjust school size and style as needed, prevent bully issues. Psychotherapy with connected and reassuring therapist. Exposure and Response Prevention (ERP) if OCD features. Higher doses of 5-HTP (300–400 mg) if OCD features.
 - d. Emotional: consider arts, crafts or other relaxing hobbies. Journaling.
 - e. Social: may need to support one on one time with gentle peers.
 - f. Spiritual: support spiritual path. Prayer and ritual may provide solace (Kaplan & Shannon, 2007; Kemper & Shannon, 2007; Lake, 2007; Lake & Spiegel, 2007; Shannon, 2002).

Safety Issues

Psychiatric medications have rather significant health and safety risks in adults. In a child with a growing nervous system most of these concerns are unexplored. By comparison, the integrative modalities discussed in this chapter appear to carry risks that are orders of magnitude safer. For example, over 100,000 Americans die each year from the correct use of prescription medications (Lazarou, Pomeranz, et al., 1998) and it is the sixth leading cause of death in the United States. Outside of the banned supplement ephedra (abused as a weight loss stimulant), only a handful of Americans die each year from herbal supplements in spite of enormous unsupervised use (Mills, 2007). A few notable safety concerns do stand out and merit discussion.

Kava Kava has been documented to reduce anxiety. However, there have been a number of deaths from liver failure associated with it (Ernst, 2007). These appear to be related to a manufacturing issue using non-rhizome components. Until this issue is clarified a ban on clinical use is warranted. Any of the stimulant or anti-depressant products (ginkgo, sun exposure, SJW, 5-HTP) can trigger manic cycling in predisposed patients (Fahmi, Huang, et al., 2002). Any patient with a bipolar presentation or family history must be approached with real caution. Acupuncture with pre-pubertal children is challenging. Acupuncture treatment itself can cause bruising, trigger premature labor or, rarely, cause a pneumothorax. St. John's Wort can cause sun sensitization. SAME can elicit nausea,

headaches or insomnia. Meditation must be recommended cautiously in any patient with a history of psychosis. All of the vitamins being discussed here (including EM Power) fall in the safe range and are not associated with known toxicity. Many categories discussed here; lifestyle changes (exercise, sleep, etc.), learning environment adjustments, home environment adjustments, parenting support, relaxation, and coping skills, for example, are safe, practical and support the child's health in a number of ways.

Case Study

Jennifer is a 12-year-old girl who comes to you with her mother, Gloria, with a chief complaint of depression. Jennifer has felt bad for 6 months, she tried cutting on herself and took six Tylenol once but never told anyone. A teacher told the school counselor and they now seek your help. Father is a workaholic and under-available. Mom is mildly depressed and grew up with an alcoholic father. Jennifer is slightly overweight, inactive, craves carbohydrates and spends 2–4 hours a day on her computer on a social networking site.

As you explore her ecosystem you find that the home environment is stressful and chaotic. Jennifer stays up late on the computer and only gets 7½ hours of sleep each evening. Her diet is low in protein and high in processed foods. She thinks poorly of herself and hates her body.

Your intervention revolves around improving the environmental supports for Jennifer. You spend time educating mom and Jennifer about the need for more sleep, a better diet, and more activity. You explain the need to limit screen time to allow time for these other priorities. Screen time gets earned when these are accomplished. You outline reasonable nutrition and get both of them to pledge a diet with more protein, whole grains, daily breakfast, and no caffeine or soda. You outline basic supplementation that includes 1000 mg of vitamin C, 50 mg of B complex, and 1 g of EPA fish oil.

You spend time with mom emphasizing the need to address her depression and marital stress, as this is a factor in Jennifer's mood and environment. You support a yoga class for Jennifer and her dad and emphasize the need for him to be more involved in her life. Both Jennifer and her mom feel worse in winter so you prescribe a light box with 30 minutes each morning while eating breakfast. Jennifer has a nice connection with her youth minister, so you suggest regular visits with him until Jennifer feels much better. You recommend Jennifer take 200 mg of SAMe each morning and afternoon on an empty stomach, increasing to 400 mg twice daily in 1 week. Finally, you recommend Jennifer spend 10 minutes each night before bed filling in a gratitude journal. The parents are very pleased that they can avoid prescription medication at this point and understand that is could be a part of the plan if Jennifer fails to respond. You will see them back in 2 weeks to coach and suggest these changes.

Summary

The child's brain is the most complex eco-system in the known universe. We must strive to assess this ecosystem as comprehensively as possible. A thorough assessment will include an understanding of environmental, physical, mental, emotional, social, and spiritual concerns. The unique characteristics of each child provide a map of strengths, gifts, challenges, and style. The treatment flows from this map.

The treatment will be much more likely to be successful if it plays on strengths and addresses stressed areas of the child's life. A multi-model also will be more effective in the long run. Work with the belief system of the family and of the child. Re-assess your assessment and treatment response on a regular basis. Remember, children represent a moving target. If the child does not respond positively to the treatment approach, reassess your diagnosis and your treatment within 6 weeks. Do not lose the momentum for change.

Embrace the awesome vitality and healing capacity of this child. You should radiate acceptance, optimism and engagement. As a practitioner, your own personal mental, emotional, and spiritual health becomes either an effective tool or serious roadblock to every child's recovery. You must walk the talk. Finally, the greatest joy in this work comes from knowing the whole child well and witnessing their beauty as they rebalance and blossom.

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