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FEATURES:

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Attention-Seeking: Weighing Old and New Perspectives of ADD, ADHD

Investigating Misdiagnosis, Costs and Solutions

BY DR. KEVIN ROSS EMERY AND DONNA BASS, BS, G

Attention deficit hyperactivity disorder (ADHD) is clinically defined as a disorder presenting with symptoms such as inattentiveness, overactivity, and impulsivity. For these symptoms to be diagnosed as ADHD, they must be out of the normal range for a child's age and development" (PubMed website 2011). According to the *Diagnostic and Statistical Manual (DSM) IV*, ADHD can be sub-typed into inattention and hyperactive (ADHD) and nonhyperactive or inattentive types labeled attention deficit disorder (ADD). In the book *Managing The Gift of Your ADD/HD Child*, Emery shifts the paradigm from a western viewpoint of it being a disability to a view of ADD/HD as an evolutionary process which is expanding the human potential. The ADD/HD term is also used to both highlight the over-reliance of the *DSM* which can result in misdiagnosis, and unnecessary drug therapies and medical costs.

It is a widely accepted correlation that the prefrontal cortex mediates executive function. It has been theorized that dysfunction in this brain region results in inattention and impulsivity, which are characteristic of ADHD. In fact, studies have shown that in some people diagnosed with ADHD, the prefrontal cortex matures more slowly (NIMH website, 2007). However, delayed maturation appears to abate with time and "catches up" with normal brain growth (NIMH, 2007). Other theories of the etiology of ADHD include genetic and environmental causal factors such as: parenting, diet, poor lighting, air quality, exposure to chemicals and metals, and an ineffective educational curriculum for this population.

HOW IS IT DIAGNOSED?

Initially there is an observation by trained (or untrained) school personnel or parents (Sax & Kautz, 2003), followed by consultation with a pediatrician, school psychologist, psychologist, psychiatrist, or other healthcare professional. "From 2000 to 2010, the number of physician outpatient visits in which ADHD was diagnosed increased 66 percent from 6.2 million (95 percent confidence interval 5.5-6.9M) to 10.4 million visits (95 percent confidence interval 9.3-11.6 million)" (Garfield et al., 2012), or a two-thirds increase in ADHD diagnosis. Is the incidence of ADHD more prevalent or are there possible misdiagnoses? Ultimately, ADHD has no known etiology or blood test. Diagnoses are based upon observation and guidelines put forth by the *DSM IV*.

HOW COULD ADHD BE MISDIAGNOSED?

The *DSM-IV* criteria of ADHD are strikingly similar to the characteristics of giftedness which are: "...boredom, lack of attention and daydreaming (Webb,1993). A gifted child could be able to master tasks quickly as they can quickly see patterns and relationships (McAlpine & Reid, 1996). This could mean the child has difficulty sustaining attention on some tasks they have quickly mastered. A child who is intellectually playful, imaginative, or enjoys fantasy may be inattentive (McAlpine and Reid, 1996). Dabrowski's (1972) imaginational overexcitability includes dramatization to escape from boredom" (excerpted from: Edwards, 2009). The differences are subtle and require a discriminating eye to detect.

Misdiagnoses can happen for a number of reasons, such as being the youngest in the class; not enough vigorous playtime (preferably in nature); unresolved emotional traumas; chemical/metal toxicity; substance sensitivities such as food colorings, gluten, dairy, high fructose corn syrup, corn, and MSG; or simply being a gifted child (Edwards, 2009). The ever-growing list of disorders that are being misdiagnosed as ADHD contributes to the understanding of a recent study that indicates "the misdiagnosis of ADHD is potentially 20 percent" (*Science Digest*). If diet and environment were shifted, and the giftedness of the child examined, an ADHD diagnosis might be unnecessary (Emery, 2011; Edwards, 2009; Elder & Lubotsky, 2009).

HOW IS ADHD TREATED?

ADHD is often treated with drugs including but not limited to: Ritilan, Focalin, Concerta, Daytrana, Adderall, (methylphenidate, stimulant medications), Strattera (atomoxatine HCl, norepinephrine reuptake inhibitor) and Intuitiv (guanfacine, an alpha andrenergic blocker). The long-term effects of these pharmacologic interventions are currently unknown, and most of these drugs come with a warning. For example, methylphenidate Ritalin, Focalin, Concerta, Daytrana, Adderall, Strattera, have a black box warning, which is the most serious warning imposed by the Food and Drug Administration (FDA) and highlight potentially fatal, life-threatening, or disabling adverse effects for prescription drugs.

AT WHAT COST?

Medical costs associated with an ADHD classification are approximately double for each individual diagnosed. This adds up to approximately $14,500 per household in the U.S. (Pelham, Foster & Robb, 2007). Mistreatment and misdiagnosis of ADHD also comes with a cost. "Such inappropriate treatment is particularly worrisome because of the unknown impacts of long-term stimulant use on children's health," Elder said. "It also wastes an estimated $320 million-$500 million a year on unnecessary medication -- some $80 million-$90 million of it paid by Medicaid" (*Science Daily*). That would leave some $200-$500 million to be picked up by insurance companies along with unknown medical care costs later in life.

There is also the issue of a 50 percent increased chance of the ADHD child to have drug addiction issues as an adult, which causes its own set of long-term cost (Sales, 2000). Other potential immeasurable and unanticipated costs of ADHD are potentially lowered self-esteem of the ADHD-labeled individual (Treuting & Hinshaw, 2001), along

with potential long-term health issues such as addiction and possible latent heart disease, due to taking these medications.

ALTERNATIVE SOLUTIONS FOR ADHD

Changes in diet and supplementation, better crafted educational programs, shifts in environment, along with creative, interactive, inclusive and critical thinking parenting and teaching programs will create dramatic positive effects in the associated costs of ADHD. Here are some more specific solutions:

Diet: It was recently reported in *The Lancet* that 64 percent of children diagnosed with ADHD are actually experiencing a hypersensitivity to food (Raz & Pelssner, March 12, 2011). The disorder is triggered in many cases by external factors, and can be treated through changes to one's environment such as food.

- Solution: Nutrient dense foods. Today's child has access to plenty of calories but often the majority of them are empty calories not providing enough nutrients to function at their maximum capacity.

Supplementation: The supplements that seem to have positive effects within ADHD population are:

- Omega-3: This essential fatty acid assists with reducing impulsivity.
- Zinc: "... is an important modulator of neuronal excitability. ... zinc deficiency is linked to problems in cognitive development evident by alterations in attention, activity, neuropsychological behavior and motor development." (Mohammadi, M. & Akhondzadeh, S. 2011)

Parenting: Enacting an action-and-consequence-based parenting strategy empowers children to participate in the creation of their own lives. Parenting and educating very bright, highly creative and high energy children takes more investment of time and energy in early childhood. Strategies have to be in place that include the child and teach them how to better understand and advocate for themselves.

Teaching: "We need to make learning for these children applicable to their lives and interactive in nature. Information needs to be taught in multiple learning formats that challenges and engages this population. This can be done by engaging and developing their own critical thinking skills which gives them a feeling of ownership in the process [of learning]" (Emery, 2011).

Outdoor play time: For children with ADHD, regular "green time" is correlated with milder symptoms. There is a link between the children's routine play settings and the severity of their symptoms. Those who regularly play in outdoor settings with lots of green (grass and trees, for example) have milder ADHD symptoms than those who play indoors or in built outdoor environments. The association holds even when the researchers controlled for income and other variables.

This article has presented both traditional and alternative perspectives along with some solutions to the ever-growing problem of ADHD misdiagnosis (20 percent), reviewed the alarming rate of increased diagnosis (66 percent), the black box warnings of most ADHD medications, and the rising cost of care. The alternative solutions of diet, supplementation, educational strategies and giving children more play time were also examined. CIP

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- Schedule patients in need of office visits for follow-up care and observation. For example, the SOC for patients with heart failure is two office visits per year or more if warranted.
- Track and monitor referrals to physicians.
- Eliminate redundancy of services by avoiding duplication of diagnostic tests, exams, etc.
- Refer to care management program, as prescribed by the physician or as identified by data outcome monitors.
- Alert the physician of outcomes performance, especially when in need of additional intervention.
- Leverage data and resources to get optimal outcomes.

Benefits from local people taking care of local people include:

- In general, regardless of the configuration of human and information infrastructure:
  - Optimal patient and population health and financial outcomes are apparent.
  - Reduced loss is evident through the management of avoidable readmissions, avoidable ER use, and increased efficiency through the prevention of duplicate services.
  - Payers/employers should manage its own population health and productivity to reduce population risks and expense, as well as loss in days and dollars, resulting in productivity gains for employers.
- Providers of health management services should provide case/care, maternity, disease management and/or lifestyle coaching for their patient population, as well as services to employers and other payers by encouraging a whole person approach and offering outcomes monitoring and management. In addition to the above, healthcare transformation is bringing payment for outcomes which creates:
  - A revenue source to support achieving business and healthcare goals.
  - Loyalty from the community.
  - As a provider, satisfaction in being recognized as a high-performing physician by ensuring patient outcomes are being monitored and managed for their patient populations served (Medicare, Medicaid, commercial, charity care, and general population), and for reimbursement alignment.

FINAL THOUGHTS

Much like the proverb "It takes a village to raise a child," if we have learned anything in the past decade, it takes a village to achieve optimal population health and financial outcomes. However, in healthcare it takes a coordinated village to attain desired outcomes. Communities are coming together through universal data connection of all stakeholders for both the human and data infrastructure involved in population health and productivity management, transforming healthcare one person at a time for optimal patient and population outcomes. Data is critical to demonstrating and improving outcomes, which is critical to succeeding in population health and productivity management. CIP

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"Listen Up, Turn It Down" campaign. Quota collaborations with the American Association of Audiology and the National Institute on Deafness and Other Communication Disorders afforded a series of pamphlets, flyers, posters, worksheets, promotional items, and PowerPoint presentations for ages four to seven, eight to 11, and adult/teen that clubs and members may use to disseminate information about noise and NIHL.

Clubs also can assist teachers and homeschoolers in acquiring lesson plans on NIHL, suitable for science curricula in grades seven and eight.

CHANGING LIVES SINCE 1919

"Listen Up, Turn It Down" is part of Quota International's longstanding commitment to hearing health. Founded in 1919 in Buffalo, N.Y., as the first international service organization for women, Quota International adopted speech and hearing as a service focus more than 60 years ago. Today, Quota clubs in 12 countries assist people with needs related to hearing and other forms of poverty.

For more information, visit Quota's website at www.quota.org. CIP

Mary Margaret Keaton has written about Quota International for over a decade. The former Quota communications director in Washington, D.C., she continues to cover inspirational Quota stories from her home near Charlotte, N.C. Contact: mmkyodzis@yahoo.com

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Dr. Kevin Ross Emery's books, *Managing the Gift of your ADD/HD Child* and *Managing the Gift: Alternative Approaches to Attention Deficit Disorder* are built upon more than 14 years of experience working with individuals of all ages living with attention deficit disorder – and a lifetime of personal experience dealing with it himself. Web: www.KevinRossEmery.com.

Donna Bass graduated from the University of New England in 2010 with a degree in Behavioral Neuroscience and is currently pursuing her PhD in Psychology at The Institute of Transpersonal Psychology.