

****THE PARENT COACH: PROACTIVE PARENTING****

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A parent writes, My friend and I worry that our middle school son and daughter are turning into bullies. I don't understand how this happens. What can we do about it?

Children taunt, tease, and bully their peers in many ways and for many reasons. In certain cases, peer mistreatment serves as a rite of passage, enabling boys and girls to flex their social muscles without intending any true harm to their friends. Kids refer to this peer posturing as just kidding around, and it tends to be reluctantly tolerated by parents and teachers. An invisible line separates the socially acceptable posturing from the harmful brand that leaves its victims feeling isolated, alienated, and even enraged. Understanding this line requires keen observation and insight into the social dynamics within the peer culture of middle school.

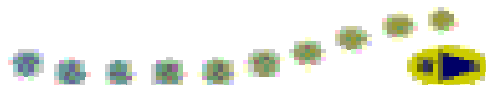
One of the most critical concerns of early adolescents is social rank, which in the peer culture translates into popularity. It fuels self-esteem, establishes influence, and creates group alliances. Some kids possess personality traits, which reward them with this social payoff while others exploit the vulnerability of peers in an attempt to acquire popularity. In this latter context posturing takes on an insidious, and even sinister, character. Insults, threats, physical pushes, embarrassing accusations, and ominous gestures and expressions are among the sadistic repertoire of those boys and girls who bully for social advancement. Concerned adults need to be watchful for these signs if they are to successfully intervene inside a culture that often condones, if not approves, of bully behaviour. Here are some ideas to expose and extinguish bullying:

Learn about today's bully tactics. Bullying is now more mainstream but can also be cleverly disguised. Sometimes it is so obvious that parents and teachers don't take much notice since it appears innocent. But this is a subjective judgment that may not be supported by the feelings left inside the chosen target. Mainstream tactics include coat-tailing, or taking advantage of a peer mistake exposed by an teacher/parent to further antagonize and embarrass. This is distinct from the cough-disguised threat/insult that contains a strong verbal strike that is hard to distinguish due to

the fake coughing it is packaged within. Bullies also employ "track-covering" such as "supposed accidents" of physical contact or "deliberate pretence" that involves contrived and mean-spirited conversations designed to be overheard by the target child but without direct mention of his/her name. Bullies also take advantage of the presence of involved onlookers who bolster the impact of his/her tactics even though they may be more restrained in their mistreatment. All of these manoeuvres leave some victims feeling verbally and physically pushed around, a sign that the posturing has definitely stepped over the invisible line.

Bullies target their own feelings of vulnerability. The middle school environment provides a cross-section of development, spanning the ranks of pre-pubescent children still very attached to parents to sexually active teens repudiating their childhood past. This melting pot of quiescence and impetuosity is ripe for bullying. Bullies target those children who can't help but broadcast their vulnerability through physical stature, emotional immaturity, lack of social savvy, and more juvenile interests. In doing so, they attempt to reject parts of themselves and strengthen their still fragile identity. This contributing factor is buried beneath the contempt bullies feel for their targets but can be unearthed. By exposing this link concerned adults can begin to educate bullies about the triggers operating in their psyches.

Bully sensitivity training combines education, awareness, and experiential exercises. Children who bully have a lot to learn about the reasons underlying their behaviour. In addition to social standing and vulnerability, other sources of bullying include media portrayal, emotional problems, sibling relationships, and harsh parenting. Bullies can be taught about the impact and consequences their behaviour has on their victims and their own reputations. Simulated role-play exercises can be employed to help bullies step into the shoes of their targets, and listen to the inner feelings their behaviour leaves behind. Parents and teachers can work towards ensuring such programs are available to bully prone children.



Jennifer visited a psychic of some local repute. In a dark and hazy room, peering into a crystal ball, the mystic delivered grave news: "There's no easy way to say this, so I'll just be blunt – prepare yourself to be a widow. Your husband will die a violent and horrible death this year." Visibly shaken, Jennifer stared at the woman's lined face, then at the single flickering candle, then down at her hands. She took a few deep breaths to compose herself. She simply had to know. She met the fortune teller's gaze, steadied her voice, and asked: "Will I be acquitted?"

****NEW TREATMENT GUIDELINES FOR AD/HD FROM THE AMERICAN ACADEMY OF PEDIATRICS****

taken from Dr. Rabiner's Research Reviews (www.attention.com)

Note: Although the following article is rather long, we consider that this information is beneficial for parents as well as professionals and would recommend that parents take the time to read it. I have highlighted a couple of interesting, initial, statements which I hope will encourage you to read on.

In the October 2001 issue of Pediatrics, the American Academy of Pediatrics (AAP) published their evidence-based recommendations for the treatment of children diagnosed with ADHD. The committee responsible for preparing these guidelines included general pediatricians, child psychiatrists, developmental pediatricians, family physicians, child psychologists, and child neurologists. The committee devoted three years to reviewing the published literature on the treatment of children with ADHD. The resulting treatment guidelines are based on the best scientific evidence currently available.

The AAP guidelines are an extremely important resource for parents and practitioners.. **Knowledge of these guidelines provides a basis for evaluating how the treatment being received by one's own child -- or the children one works with professionally -- compares to what has been recommended by an expert panel relying on state-of-the-art scientific evidence.** The recommendations listed below are taken directly from the AAP document. The discussion of each recommendation represents my synthesis of how each recommendation was discussed along with ideas I have incorporated from other sources.

Recommendation 1: Primary care clinicians should establish a management program that recognizes ADHD as a chronic condition.

ADHD is a chronic condition with no known cure and many children with ADHD will manifest symptoms of the disorder into adolescence and beyond. Effective treatment thus requires that a long-term management plan. The goal of this plan is to minimize the adverse impact of ADHD symptoms over the course of a child's development.

The AAP guidelines emphasize that educating parents and children about ADHD is critical in developing an effective management program. Parents and children should be informed about the ways in which ADHD can affect learning, behaviour, self-esteem, social skills, and family functioning. Initially, this information helps to demystify the diagnosis. It also increases the likelihood that parents and children will participate in the development of a comprehensive treatment plan that can be sustained over time.

This patient education process is ongoing: **families should be provided with important new information on ADHD as it becomes available..** Clinicians should direct families to resources that provide families with ongoing current information (e.g. CHADD, <http://www.chadd.org>) and the opportunity to develop supportive relationships with other families.

The importance of educating parents and children about ADHD cannot be over-emphasized. Providing effective treatment/management for a child with ADHD can be an extremely difficult process that must be sustained over many years. When families lack a solid understanding of how ADHD can affect children's development, sustaining the efforts required to effectively manage a child's symptoms over an extended time can be even more difficult.

It is noteworthy that this guideline explicitly states that educating children about ADHD is an integral part of the treatment/management process. Children should be provided with an age-appropriate explanation of the condition and how it may affect them in school, at home, and with peers. They should be given the opportunity to ask questions about their condition. These questions may need to be addressed on multiple occasions, and the

nature of their questions may change over time. **A child cannot be expected to be a cooperative partner in his/her treatment without a clear understanding of what he/she is being treated for and why treatment is necessary.**

Recommendation 2: The treating clinician, the parents, and the child, in collaboration with school personnel, should specify appropriate target outcomes to guide management.

This recommendation emphasizes that effective management of ADHD requires an ongoing collaborative effort that includes parents, the child, the school, and the health care provider. This collaborative effort should be focused on maximizing the child's functioning in key social, academic, and behavioural areas, rather than on simply reducing the levels of core ADHD symptoms. For example, desired results would include:

- * improving the child's relationships with parents, siblings, teachers, and peers;
- * decreasing disruptive behaviours;
- * improving academic performance;
- * enhancing self-esteem;
- * enhancing safety in the community.

Treatment should begin with a clearly defined set of goals for the key areas in which a child is struggling. These goals are based on input from children, parents, and school personnel. (Once again, the value of including children as collaborative partners in the development of a treatment plan is emphasized.) The treatment goals should be clearly specified (e.g. "John will complete his assigned work on time."), manageable in number (e.g. 3-6 key treatment targets), and realistic to attain. A plan needs to be put into place for determining how success towards attaining each goal will be monitored and measured. Without such a plan, it will be difficult to accurately evaluate the success of treatments that are implemented.

The recommendation that treatment focus on functional improvement in key areas (rather than on simply reducing/eliminating core ADHD symptoms) is important. Parents and clinicians should recognize that symptomatic reduction and functional improvement do not always go hand-in-hand. For example, some children can show clear reductions in inattention and/or hyperactivity but continue to struggle with schoolwork, peer relations, etc. By focusing on functional improvement rather than simple symptom reduction, parents and

providers will be better able to identify such situations and make appropriate adjustments/modifications to a child's treatment.

Recommendation 3: The clinician should recommend stimulant medication and/or behaviour therapy as appropriate, to improve target outcomes in children with ADHD.

What treatment methods should be used to achieve the target outcomes developed as recommended above? The AAP guidelines recommend stimulant medication treatment and/or behaviour therapy. The fact that these are the only 2 treatment options recommended does not mean that alternative treatments do not work. It does indicate, however, that these were the only treatments for which the committee felt sufficient scientific evidence exists to justify their routine recommendation.

Beyond this generic recommendation, the guidelines contain important information about the use of each treatment. It is noted that for most children "stimulant medication is highly effective in the management of the core symptoms of ADHD." Research indicates that the most powerful effects are found on measures of observable social and classroom behaviours and on core symptoms of inattention, hyperactivity, and impulsivity. The effects on academic achievement are more modest.

Although most studies examining the efficacy of stimulant medication have been short-term studies, recently published results from the MTA study (<http://www.attention.com/library/articles/article.jsp?id=145&parentCatId=6&categoryId=37>) indicated that school-aged children with ADHD showed a marked reduction in core ADHD symptoms over a 14-month period. Despite these important gains, the majority of children treated with stimulant medication do not demonstrate fully normalized behaviour, and many continue to show residual difficulties that need to be addressed via other means.

Other important aspects of medication treatment noted in the guidelines included the following:

- * The longer term effects of stimulant medication treatment remain unclear and the data required to evaluate long-term impact are not currently available;
- * There is currently no basis for recommending

one brand/type of stimulant over another and each stimulant improves core symptoms equally; (Note: The use of Pemoline/Cylert is not recommended because of potential complications with liver functioning);

* The optimum stimulant dosages for a child are not weight dependent and it is not possible to predict in advance what the best dose -- or most effective stimulant -- will be for an individual child. Clinicians should begin with a low dose and gradually increase it across the full range of recommended dosages to determine the best fit for each child.

(Note: The key point here is that the first dose to which a child shows some response may not be the best dose to improve function. It is only by testing a child on a full range of doses and obtaining systematic feedback from parents and teachers about the child's functioning on each dose that the best recommended starting dosage for treatment can be determined.)

* Children may respond favourably to one stimulant, but not another. For this reason, physicians should not switch to a non-stimulant medication for treating ADHD until a child has been tested on at least 2-3 different stimulants across a full range of doses, without showing a significantly positive response.

* Available evidence indicates that stimulant medications are safe and well tolerated by most children. Most side effects occur early in treatment, are short-lived, and can often be successfully managed through dosage adjustment or a change in medication. No adverse effects of long-term use of stimulant medication are currently known, although the need for long-term safety studies is well documented.

* The only medications other than stimulants for which efficacy in treating ADHD in children has been demonstrated are tricyclic antidepressants, bupropion, and clonidine. As noted above, these should only be considered after a child has not responded to a careful trial of 2-3 different stimulants.

Behaviour Therapy

Behaviour therapy is the other treatment specifically recommended for school-aged children with ADHD. Behaviour therapy is usually implemented by training parents and teachers to consistently reward the child for demonstrating desired behaviour and providing negative consequences for failure to meet

behavioural goals. Several different techniques and strategies (e.g. behavioural parent training, classroom management) can be utilized, and in those with demonstrated efficacy, the focus is on structuring a child's environment to provide consistent consequences for desired and undesired behaviours rather than trying to teach the child new behavioural and/or cognitive skills. These skills training approaches -- although intuitively appealing -- have not yet been shown to be clearly effective for treating the core symptoms of ADHD.

(Note: I think it is important to emphasize that the above recommendation does not necessarily mean there is no place for skills training in the treatment of some children with ADHD. For example, some children with ADHD may lack the social and problem-solving skills required to establish and maintain good peer relationships. When these skills are poorly developed, skill-building approaches can be helpful. The point to keep in mind, however, is that skills training approaches are unlikely to help with core ADHD symptoms. And, effectively treating core symptoms via medication and/or behaviour therapy may obviate the need for skills training approaches. For example, this would be the case for a child who has the skills to interact effectively with peers, but who is unable to use these skills consistently without medication treatment because he/she is too impulsive. When a child continues to display skill-related deficits even after core ADHD symptoms are being effectively managed, these adjunctive skill building therapeutic approaches should be considered.)

The AAP guidelines note that, although positive effects for well-conducted behaviour therapy have been clearly demonstrated, there are important limitations associated with this treatment. First, almost all studies comparing behaviour therapy with stimulants indicate a much stronger effect from stimulants on the core symptoms of ADHD. Second, as with stimulant medication treatment, behaviour therapy often does not bring an ADHD child's behaviour into the normal range. Finally, behaviour therapy does not generally yield positive changes that persist beyond the time when it is being implemented. Parents using this approach thus need to be prepared to sustain the treatment over the entire course of their child's development. This necessity is consistent with the notion of ADHD as a chronic condition rather than something that can be "cured" by treatment.

Recent data from the MTA study (<http://www.attention.com/library/articles/article.jsp?id=764&parentCatId=6&categoryId=37>) indicate that the combination of careful medication treatment and behaviour therapy provides some significant benefits relative to medication treatment alone. For example, on an overall measure of treatment outcome, children receiving combined treatment showed greater improvement than children treated with medication alone. In addition, children receiving combined treatment required a significantly lower dose of medication over the 14-month study. Finally, parents and teachers of children receiving combined treatment were significantly more satisfied with the treatment plan.

Recommendation 4 - When the selected management for a child with ADHD has not met target outcomes, clinicians should evaluate the original diagnosis, use of all appropriate treatments, adherence to the treatment plan, and presence of coexisting conditions.

This recommendation is based on the premise that well-conducted medication and/or behaviour therapy should yield clinically significant benefits for the vast majority of children with ADHD. When such benefits fail to occur, this guideline identifies several prominent reasons that should be considered.

First, the original diagnosis of ADHD may be incorrect and the basis upon which the diagnosis was made should be reevaluated. Unfortunately, prior research has shown that many children are incorrectly diagnosed with ADHD and then treated inappropriately with stimulant medication. (Note: An equally important problem is the probably far greater number of children with ADHD who are never identified or treated.)

Second, clinicians and parents should examine whether the goals being targeted can be realistically accomplished or whether they have been set "too high". Care must be taken to set behavioural and academic goals that are within a child's reach.

Third, the treatment plan should be reevaluated to determine whether it is comprehensive enough to address a child's difficulties. For example, although medication and behavioural intervention have both been shown to be effective treatments for ADHD, limiting a child's treatment to one of these options alone may not be adequate in many

instances.

Fourth, adherence to the treatment plan should be looked at carefully. If a child fails to consistently receive medication as prescribed, such treatment is not likely to provide meaningful benefits. Behavioural interventions are also unlikely to yield any substantial benefits unless they are faithfully implemented over a sustained time period. If a well-designed treatment plan is not providing desired results because it is not being adhered to, reasons for non-adherence to the treatment plan need to be identified and addressed. Abandoning such a plan before it has been given a fair test would not be advisable.

Finally, careful consideration needs to be given to whether co-existing conditions are present that may complicate the treatment of ADHD. Children with ADHD are at increased risk for a variety of other disorders, including learning disabilities, mood and anxiety disorders, oppositional defiant disorder (ODD), and conduct disorder (CD). When one or more of these disorders co-occur with ADHD, interventions in addition to standard ADHD treatments are often required. Although a thorough evaluation for ADHD should include assessment for co-occurring conditions so that treatment plans can be developed accordingly, this may not have occurred. Thus, when ADHD treatment is not yielding desired results, the possibility that an important co-occurring condition has been missed should be carefully considered.

Recommendation 5: The clinician should periodically provide a systematic follow-up for the child with ADHD. Monitoring should be directed to target outcomes and adverse effects by obtaining specific information from parents, teachers, and the child.

The importance of this recommendation cannot be overemphasized. A significant limitation in the treatment received by many children with ADHD is the lack of adequate follow-up and monitoring. When careful monitoring of treatment success is lacking, an ineffective treatment regimen may continue without the necessary adjustments or modifications being made.

In the MTA study, an important treatment feature was that monthly follow-ups were scheduled for children treated with medication. At these follow-ups, direct information on the child's functioning was obtained from parents and teachers. Problems

that may have emerged were thus identified quickly and appropriate modifications to the medication treatment were made.

It is important to note that, even though an extremely rigorous procedure was used in the MTA study to identify the optimum dose of medication for each child, dosage adjustments over the next 13 months were common and some children were even switched to new medications. For example, three months into the maintenance period for children receiving medication in the MTA study, 56% had already had their medication or dosage changed. The average amount of time to the first dose change was between 4 and 5 months.

Across the entire maintenance period, the average number of changes required for each child was just over 2, but some children required as many as 10 medication adjustments. Of the total medication changes made, 62% involved increasing the dosage of the current medication, 31% involved decreasing dosage, and 7% involved changing types of medication. These changes were required in order to maintain adequate management of children's symptoms.

The AAP guidelines state that the frequency of monitoring will depend on the "...degree of dysfunction, complications, and adherence" and there is no research that specifies the appropriate frequency of follow-up visits. The guidelines state that once a child is stable, an office visit every 3-6 months is necessary to allow for the assessment of learning and behaviour. It is also noted, however, that additional communication should occur at more frequent visits to refill medication, and that parents should be asked about functioning at home, school, and in interpersonal relationships. Any apparent decrease in the child's functioning should be carefully evaluated to determine whether treatment modifications should be implemented.

Providing systematic monitoring for a child being treated for ADHD does not have to be a difficult task. If a systematic procedure for tracking how well treatment outcome targets are being met is implemented, failure to consistently achieve target outcomes will be readily apparent. For a school-aged child, a reasonable set of parameters to monitor at school would include:

- * how well core ADHD symptoms are being managed;
- * the child's ability to follow classroom rules;

- *the quality of peer interactions;
- * general mood;
- *the quality of academic performance.

In my opinion, information on these aspects of functioning should be obtained at least monthly. And, it is really not an onerous task to obtain such feedback even more regularly from a child's teacher. I have developed a simple monitoring system for ADHD that is available for free within the Learning Circle section of Attention.com. Using this system will make it easy for you to track the progress of your child -- or the children you treat -- at school. I would encourage you to learn more about this system at the following link and use it regularly.

(<http://www.attention.com/library/articles/article.jsp?id=725>.)

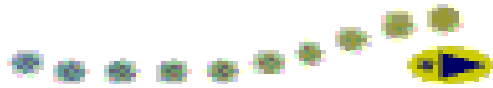
Summary and Conclusions

The AAP treatment guidelines will hopefully spur significant improvements in the quality of care received by children with ADHD from primary care physicians. Based on the best evidence currently available, they present a clear set of principals that should be incorporated into each child's treatment. In summary, the elements of optimum treatment should include: 1) a management plan that is consistent with the chronic nature of ADHD and which educates parents and children about the condition; 2) a clear set of treatment goals that focus on functional improvement and which are developed in collaboration with parents, children, school personnel, and providers; 3) the use of empirically based treatments including stimulant medication and/or behaviour therapy; and 4) close monitoring of treatment outcomes and failures.

Because research on the long-term impact of treatment that carefully adheres to these treatment guidelines is not currently available, the ultimate impact of such treatment on children with ADHD is not known. The key to promoting the long-term success of a child with ADHD, however, is to make each day as successful as possible for that child. It is through stringing together successful days into successful weeks, successful weeks into successful months, and successful months into successful years, that favourable long-term outcomes will be achieved.

Based on the current state of our knowledge, careful adherence to the AAP guidelines is the best way to accomplish this, and one hopes that primary care physicians will make the

necessary adjustments in their practice to make sure this occurs.



These sentences actually appeared in a church bulletin were announced in a church service!

1. Announcement in the church bulletin for a National PRAYER & FASTING Conference: "The cost for attending the Fasting and Prayer conference includes meals."
2. Our youth basketball team is back in action Wednesday at 8 PM in the recreation hall. Come out and watch us kill Christ the King.
3. Miss Charlene Mason sang "I will not pass this way again" giving obvious pleasure to the congregation.
4. "Ladies, don't forget the rummage sale. It's a chance to get rid of those things not worth keeping around the house. Don't forget your husbands."

****DO COMORBID CONDITIONS IMPACT HOW CHILDREN WITH AD/HD RESPOND TO TREATMENT?**) ****

taken from Dr. David Rabiner's Research Reviews

Many of you are already familiar with the results of the MTA study, the largest treatment study of ADHD ever conducted. The goal of this study was to compare the effectiveness of carefully conducted medication treatment, intensive behavioural treatment, the combination of medication and behavioural treatment, and typical treatment for ADHD as practiced in community. Participants in this study were 579 children between the ages of 7 and 9.9 who had been carefully diagnosed with ADHD, Combined Type. Although children in all 4 treatment groups showed significant improvement, those in the medication-only group and the combined-treatment group had significantly greater improvement in their core ADHD symptoms than children given only intensive behavioural treatment or community care. There was also evidence that combined treatment provided a modest incremental benefit compared to careful medication treatment alone. For a thorough discussion of the MTA

Study results, click here:

<http://www.attention.com/library/articles/article.jsp?id=145&parentCategoryId=6&categoryId=37>.

Even more discussion is available here: http://www.attention.com/library/articles/s_arti

[cle.jsp?id=764&keywordId=13](http://www.attention.com/library/articles/article.jsp?id=764&keywordId=13)

An important question not fully addressed in the initial analyses of the MTA results is whether treatment response may vary as a function of the other conditions a child may have in addition to ADHD (i.e. comorbid conditions). Unfortunately, it is well known that children with ADHD often have other conditions as well, including Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), mood disorders, and anxiety disorders. (For a discussion of ODD and CD go to: <http://www.attention.com/library/articles/article.jsp?id=142&parentCategoryId=4&categoryId=24>).

These comorbid conditions can complicate a child's treatment and tend to be associated with a poorer long-term prognosis. Therefore, it is very important to carefully examine whether the presence of these other difficulties affects the type of impairments that children have, how they respond to treatment, and the type of treatment that is likely to be most helpful. (Note: In the MTA study, medication and behavioural treatment were the only ones investigated because they are the interventions with the strongest empirical support at this time.)

These important question were examined in a recently published study titled "ADHD comorbidity findings from the MTA study: Comparing comorbid subgroups" (Jensen et al., (2001). Journal of the American Academy of Child and Adolescent Psychiatry, 40, 147-158).

In this report, the authors compared the treatment outcomes for 4 different groups of children from the MTS study: children with ADHD alone (n=184), children with ADHD and either ODD or CD but without an anxiety disorder (n=171), children with ADHD and an anxiety disorder but without ODD or CD (n=81), and children with ADHD, ODD/CD, and an anxiety disorder (n=143). (Note: Some of the children diagnosed with anxiety disorders had mood disorders as well.) Diagnoses and assignment to the different groups were based on structured psychiatric interviews conducted with parents, and thus do not reflect children's own reports of fears, worries, and other symptoms of anxiety.

Results

A number of different baseline and outcome measures were collected in this study, including core symptoms of ADHD,

oppositional/aggressive behaviour, academic achievement, anxiety and depression symptoms, social skills, and parent-child relations. Although the results varied across these different measures, there are several important general conclusions that can be made.

* Parents of children with ADHD and ODD/CD report greater difficulty with their child than parents of children with ADHD and an anxiety disorder.

An important exception to this general pattern is that children with ADHD and an anxiety disorder were more likely to have academic problems and to be diagnosed with a learning disability.

* Overall, children with ADHD and an anxiety disorder tended to be more treatment responsive than children with ADHD alone or children with ADHD and ODD/CD

Children with ADHD and an anxiety disorder showed a positive response to all 3 MTA treatments (i.e. medication only, behaviour therapy only, and combined treatment) and tended to show greater improvement than children in the other groups. Thus, although children in the other groups also showed important benefits from treatment, the treatment gains for children with ADHD and an anxiety disorder tended to be slightly greater.

* Behavioural interventions were particularly likely to be helpful for children with ADHD and an anxiety disorder.

On a number of specific outcome measures - including measures of academic achievement - as well as an overall composite measurement of outcome, children with ADHD and anxiety were more likely to show a positive response to behavioural treatment than were children in the other groups. Unlike the children in the other groups, these children did as well with behaviour therapy alone as they did with medication alone.

* For children with ADHD only, or ADHD and ODD/CD, treatments with medication seem especially effective, while behavioural treatment alone may be less effective.

Children with ADHD alone or ADHD and ODD/CD showed relatively little response to intensive behavioural therapy only. The use of carefully conducted medication treatment thus

seems especially important for these types of ADHD children.

* For ADHD children who also have both an anxiety disorder and ODD/CD, the use of combined treatment (i.e. medication and behaviour therapy) may offer substantial advantages.

For these children with the most complex set of symptoms, overall outcome for combined treatment was significantly better than for either behavioural treatment or medication treatment alone.

Summary and Implications

These findings add substantially to the main results of the MTA study and have clinical implications that are potentially important for parents and clinicians. First, it appears that children with ADHD and a comorbid anxiety disorder may be especially likely to have concurrent academic problems and learning disabilities. Thus, for these children, it would be especially important for this possibility to be carefully considered and investigated. Although this is likely to occur in a comprehensive evaluation conducted by a child mental health specialist, this may be short-changed because of insurance-imposed limitations. In addition, primary care physicians may not always have the training that enables a careful assessment of academic functioning and learning difficulties to be completed.

Second, for children with ADHD and an anxiety disorder, carefully executed behavioural treatment may yield treatment gains that are equivalent to what would be provided by medication. Thus, in situations where parents have strong concerns about the use of medication, where children do not benefit from it, or, cannot tolerate it, behavioural treatment alone can be a reasonable treatment choice for these children. For these children, beginning treatment with behaviour therapy alone and carefully monitoring their progress may alleviate the need for medication in many instances.

Third, parents and clinicians should be aware that in children with ADHD alone, or ADHD with ODD/CD, the use of carefully conducted medication therapy is likely to be especially critical. In the MTA study, these children did not respond well to behavioural treatment alone even though they showed robust responses to medication. When an anxiety disorder is also present, however, the addition

of behaviour treatment may confer some important incremental benefits.

As with any study, there are several important caveats to keep in mind. First, these results apply specifically to children with the combined subtype of ADHD between the ages of 7 and 10. The extent to which they would generalize to children with other ADHD subtypes (i.e. inattentive or hyperactive-impulsive) and of different ages is unknown. Second, there are always individual exceptions to results that are derived from comparing groups. Thus, although these results indicate what is more likely to be true about a specific child (e.g. a child with ADHD alone is likely to respond better to medication treatment than to behavioural treatment), there are always exceptions at the individual level.

Most importantly, the results from the MTA study are based on both medication and behavioural treatment that can be considered state-of-the-art. For example, children receiving medication treatment began with a careful placebo-controlled trial to determine their optimum starting dose, and were then carefully monitored each month to determine when modifications to dosage or even type of medication were necessary. Behavioural treatment included extensive work with parents, an 8-week summer program for children, and an intensive behaviour management system at school. (For a more extensive discussion of these treatments, go to <http://www.attention.com/library/articles/article.jsp?id=145&parentCatId=6&categoryId=37>.)

Unfortunately, this is not the type of medication treatment or behavioural treatment that is typically provided in community settings. In fact, one of the main findings of the MTA study is that children receiving medication treatment or combined treatment in the study did significantly better than those whose treatment occurred in the community. Thus, one cannot assume, for example, that the behaviour treatment most children have access to would show the same positive impact on children with ADHD and an anxiety disorder that was shown in this study.

Rather than being discouraged by this possibility, however, it is important for parents to learn as much as they can about what these state-of-the-art MTA treatments entailed, and to do their best to make sure that the treatment received by their child matches this to the extent possible. With medication treatment, for

example, even though the entire placebo-controlled procedure would be hard to follow exactly, it is quite possible to incorporate several important elements of this procedure, including testing a child on a full range of doses, obtaining systematic feedback from teachers on the child's behaviour and school work on each dose, and obtaining such feedback on a regular basis to determine when treatment modifications may be necessary. These simple steps can make an important difference.

I'd encourage you to use the monitoring system that I developed and that is currently offered for FREE by Attention.com that can help parents and health care providers track a child's ongoing response to treatment and determine when adjustments may be necessary. You can learn more about this system here:

<http://www.attention.com/library/articles/article.jsp?id=725>.



****FEMALE ADOLESCENTS WITH AD/HD****

taken from Dr. Rabiner's Research Reviews

An important limitation in prior research on ADHD is that the vast majority has been conducted primarily with boys. In part, this is because ADHD occurs less often in girls than in boys. And, ADHD is more likely to be overlooked in girls than in boys, even when it is present. Whatever the reasons for the relative lack of research on ADHD girls, the result is that researchers know less about how ADHD influences girls' development and psychological functioning. This is especially true in the case of adolescent females with ADHD.

A paper published in a recent issue of the Journal of the American Academy of Child and Adolescent Psychiatry (JAACAP) represents an important step in reducing this current gap in our knowledge (Rucklidge, J.J., & Tannock, R. (2001). "Psychiatric, psychosocial, and cognitive functioning of female adolescents with ADHD". JAACAP, 40, 530-

539.) In this study, the psychiatric, psychological, and cognitive functioning of 13-16 year old adolescent males (n=38) and females (n=24) with a confirmed diagnosis of ADHD was examined. Groups of non-ADHD male (n=20) and female adolescents (n=28) also were included for comparison purposes.

The inclusion of these four groups enabled the authors to examine how the functioning of female adolescents with ADHD compared to both female adolescents without ADHD and male adolescents with ADHD - these are both areas about which relatively little is currently known. Among the adolescents with ADHD, 33% of the females and 20% of the males were newly diagnosed during the study, while the others had been previously diagnosed. About 50% of all participants (both male and female) were receiving medication treatment - generally with a psychostimulant such as Ritalin or Dexedrine - but all participants were off medication at the time the study assessments were conducted.

Measures

In order to obtain a comprehensive view of the adolescents' functioning, a wide variety of measures were included in this study. To assess psychiatric functioning (i.e. the presence of psychiatric diagnoses in addition to ADHD), adolescents and their parents underwent structured psychiatric interviews. Parents, teachers, and the adolescents themselves also completed the appropriate version of the Conners Rating Scale, a standardized rating-rating instrument that is widely used in the assessment of ADHD and other emotional/emotional problems.

To assess psychological functioning, adolescents completed self-report measures of symptoms of both depression and anxiety using the Child Depression Inventory (CDI) and the Revised Children's Manifest Anxiety Scale (RCMAS). An assessment of adolescents' attributional style and locus of control also was conducted. Attributional style refers to the way individuals tend to explain the occurrence of positive and negative events in their lives. Extensive prior research has indicated that, in general, individuals who are depressed tend to see positive events as the result of external factors rather than their own efforts. They also see positive events as unstable - i.e. unlikely to occur again. In contrast, negative events (i.e. failing to obtain a desired outcome) are understood as internally caused (i.e. "I'm not good enough."),

stable (i.e. "Things will never work out the way I want"), and global (i.e. "This will be true in others areas as well").

In the cognitive domain, a comprehensive psychoeducational assessment was conducted on all participants. This included an individually administered IQ test and test of academic achievement.

Results

Psychiatric symptoms

As one might expect, compared to non-ADHD females, ADHD females had higher scores on all Conners scales specific to the problems associated with ADHD. In addition to the ADHD-specific scales, however, ADHD females also had higher ratings on scales that measure oppositional behaviour, cognitive problems, anxiety, perfectionism, social problems, and emotional liability. Thus, adolescent girls with ADHD were struggling in a wide variety of areas according to their parents, their teachers, and themselves.

Not only were adolescent females with ADHD having more difficulties across multiple areas than non-ADHD females, but there was also evidence of greater difficulties in some areas than was reported for the ADHD males. Parents reported ADHD females had more inattentive symptoms, cognitive problems, social problems, and ADHD symptoms overall. Teachers reported that ADHD females had more ADHD symptoms than ADHD males. ADHD females themselves even reported more conduct problems, cognitive problems, and ADHD symptoms. Thus, contrary to what is often believed, adolescent females with ADHD appeared to be having more difficulty in a variety of areas than adolescent males with ADHD.

Psychosocial measures

Compared to non-ADHD females, adolescent females with ADHD reported higher overall levels of anxiety, physiological symptoms of anxiety, social concerns, depressive symptoms, feelings of ineffectiveness, and negative self-esteem. They were less satisfied with their teachers, had experienced a greater number of negative life events, were more suspicious of others, and more obsessive. They also demonstrated a less healthy pattern of attributions. (That is, they were more likely to explain negative events as being caused by stable characteristics of themselves and positive events as resulting

from external factors and being unlikely to reoccur.) Given this combination of findings, it is not surprising that they were also more likely to report both current and past suicidal thoughts.

Even compared to adolescent males with ADHD, females with ADHD reported more interpersonal problems, feelings of ineffectiveness, lack of pleasure, and negative self-esteem. They also reported more obsessive symptoms and anxiety, as well as a strong tendency to be affected by negative life events.

Both males and females with ADHD were somewhat more likely than non-ADHD adolescents to report that they used some illegal substance during the past 12 months. The difference, however, was not significant. Among the ADHD adolescents, those who were taking medication to treat their ADHD – about half of each group - were no more likely to report illicit drug use than those not treated with medication. In fact, those who were not being treated with medication were twice as likely to report prior or current drug use and this difference was statistically significant.

Cognitive functioning

Compared to non-ADHD females, adolescent girls with ADHD had significantly lower IQ scores and achievement scores in reading, spelling, and math. Despite scoring lower than non-ADHD females, however, the mean score for adolescent females still fell within the average range. Compared to adolescent males with ADHD, there were no IQ or academic achievement differences.

Note: Comparisons between non-ADHD male and female adolescents were also made on all measures collected in the study. In general, results for these groups were quite similar, which suggests that the differences reported between males and females with ADHD cannot be attributed solely to gender.

Summary and Implications

The results of this study underscore the degree to which ADHD among female adolescents is a serious concern. Clearly, the females in this study were not simply a bit more "dreamy" or impulsive than their peers. Instead, they were more impaired than non-ADHD peers on virtually every measure of psychiatric, psychological, and cognitive functioning examined. The fact that 50% of

these girls had entertained prior suicidal considerations and 25% reported prior episodes of self-harm underscores the struggles of individuals in this group.

Somewhat surprisingly, and perhaps contrary to the beliefs of many, adolescent girls with ADHD appeared to be having a more difficult time than adolescent boys with ADHD. Parents and teachers rated girls as having more ADHD symptoms, and noted that girls also displayed more behavioural difficulties, social difficulties, anxiety, and depression. In regards to adolescents' own reports, when any differences between males and females with ADHD were found, it was always in the direction of females reporting more distress. While this may possibly reflect the fact that girls are simply more willing to acknowledge emotional difficulties than boys, the fact that parents and teachers reported similar differences seems to make this explanation less likely. In future work it would be especially important to examine why ADHD may take a greater toll on the psychological functioning of girls than boys. Perhaps this is related to differences in how boys and girls with ADHD are treated, since girls are less likely to be identified and receive appropriate care.

As always, it is important to remember that the results of this study represent what was found for adolescent girls with ADHD as a group, and would not represent the experience of all such individuals. Thus, many adolescent girls with ADHD would not experience the same kinds of struggles described here, and parents should not assume that their own child is experiencing such problems. These findings do underscore the need to be attentive to such issues, however, and alert both parents and professionals to the kinds of experiences that may be more likely among teen-age girls with ADHD.

In summary, this is an important study in that it is the first attempt to take a comprehensive look at the functioning of female adolescents with ADHD - a group that has been widely neglected in prior research. These females were at high risk for a variety of psychological problems - higher even than males with ADHD. This underscores the need to pay especially close attention to these issues in the treatment of ADHD girls. As the authors of this study suggest, perhaps treatment may need to address these psychological "side effects" more systematically in females. The authors also emphasize the importance of providing

better education about ADHD in females for teachers, as they represent the primary professionals who come in contact with this underserved group of individuals.



****AN EFFECTIVE
BEHAVIOURAL INTERVENTION FOR
PRESCHOOLERS WITH
AD/HD****

Some of you may recall a controversy that emerged last year around the increasing use of stimulant medication treatment in preschool children. This controversy erupted in response to an article published in the Journal of the American Medical Association that documented 200-300% increases in stimulant prescribing to preschool children between 1991 and 1995. Although the percentage of preschool children treated with stimulants was still less than 1%, there were understandable concerns about this large rate of increase.

(For a review of this study, use the following link:

www.attention.com/library/articles/article.jsp?id=151&parentCatId=5&categoryId=34).

These concerns reflect the fact that the efficacy of stimulant medication treatment for preschoolers is more variable than in older children, and the rate of side effects appears to be higher. In addition, some professionals have noted that little is known about the possible impact of stimulant medication on the neurological development of children when started at such a young age and continued over many years.

Because of these issues, treatment guidelines published recently by the American Academy of Child and Adolescent Psychiatry indicate that stimulant medication should "only be used in the more severe cases or when parent training and placement in a highly structured, well-staffed preschool program have been unsuccessful or are not possible." In light of this recommendation, it is unfortunate that

good studies on the effectiveness of behavioural treatment for preschoolers manifesting symptoms of ADHD are few and far between. How well such interventions actually work with preschoolers is thus largely unknown. Because ADHD symptoms often emerge at such an early age, and can create significant difficulties in a child's early development, it is especially important to develop and document effective treatments for preschoolers with ADHD.

A study published in a recent issue of the Journal of the American Academy of Child and Adolescent Psychiatry (JAACAP) examines the impact of two parent-based therapies for preschoolers with ADHD, thus representing an important addition to the ADHD treatment literature (Sonuga-Barke, E.S. et al., 2001. "Parent-based therapies for preschool ADHD: A randomised controlled trial with a community sample". JAACAP, 40, 402-408). Participants in this study were 78 3-year-old children (48 boys and 30 girls) meeting DSM-IV criteria for ADHD, as well as their parents. (For information on these diagnostic criteria, use the following link: www.attention.com/library/articles/article.jsp?id=525&parentCatId=3&categoryId=19.)

These children were initially identified based on a large-scale screening in an entire community, rather than by selecting families who had already been referred for treatment. This is an important strength of the study, in that the participants are representative of children in the general population who manifest ADHD symptoms, rather than the relatively small percentage whose parents seek treatment for their child at such an early age.

Parents of children scoring above a certain level on the screening were informed about the study and offered a more thorough evaluation for their child. When parents agreed, and the subsequent evaluation was consistent with an ADHD diagnosis, the families were assigned at random to one of three different groups. Parents in two of these groups received an active treatment while the third group was a waiting-list control group. This design enabled the researchers to examine the impact of the 2 different treatments compared (see below for a description of each treatment) and whether parents and children who received treatment were doing better at follow-up than those in the waiting list control group. Mothers were the recipients of the treatment in all

cases. No explanation is provided for why fathers were not included.

The parent-training group was an eight-week program in which participants were educated about ADHD and introduced to a range of behavioural strategies for increasing attention and reducing defiant behaviour. All meetings occurred during one-hour weekly visits conducted in participants' homes. In most meetings, the therapist worked directly with the mother and child. The behavioural techniques covered in this program included teaching parents how to effectively praise their child, ignoring minor misbehaviors, giving clear and effective commands, using distraction effectively, avoiding threats, etc. In addition, parents were instructed to complete a behaviour diary for their child so that their efforts to implement new strategies could be reviewed each week.

Parents assigned to the other treatment group received no direct training in behavioural strategies as discussed above. Instead, they were given the opportunity to discuss issues of concern to them and the impact of their child's behaviour problems on family life, in a supportive and non-threatening atmosphere. Thus, rather than being taught specific skills that could be used to manage their child's behaviour, they were simply provided the opportunity to discuss their concerns with an empathic listener. This also occurred over eight weekly meetings conducted in the parents' homes.

Results Two types of outcome measures were obtained at the end of the eight-week treatments, and again 15 weeks later. One set of outcome measures focused on ADHD symptoms and conduct problems in the preschoolers. This was obtained both through a structured interview with each mother and through observing each child engaging in a solitary play activity. During the observation of the children at play, the researchers focused on patterns of attention to, and switching from, one activity to another. Based on this observation, an index of attention/engagement was computed for each child indicating the child's ability to stay focused and engaged during play activities (as opposed to "bouncing" from one incomplete activity to another).

The second type of outcome data collected concerned measures of maternal well-being. Of primary concern here were maternal reports of depressed moods and their sense of competence/effectiveness and satisfaction as

a parent. Collecting these data enabled the researchers to examine whether either treatment improved mothers' perception of their parenting abilities, in addition to simply noting whether changes occurred in child behaviour as a result of treatment. Because parenting a preschooler with ADHD can be such a difficult experience, mothers' moods and their satisfaction with parenting are important types of data to collect.

Preliminary analysis indicated that, prior to the treatment, there were no differences in the preschoolers' behaviour or maternal ratings of well-being, parental efficacy, or parental satisfaction. At the conclusion of the eight-week treatment period, however, mothers in the parent-training group reported that their children showed significantly fewer ADHD symptoms and conduct problems than did the mothers receiving supportive treatment or those others in the waiting-list control group. These changes were consistent with ratings made by blind observers of the children's behaviour during the free-play observation -- preschoolers of mothers receiving parent-training intervention were seen as more attentive and engaged than the other preschoolers.

Even more impressive is the fact that these changes noted immediately following treatment were still evident 15 weeks later. This was true even though there had been no additional contact with the mothers or children during this time. Overall, 53% of preschoolers in the parent-training group were rated as having made a clinically significant recovery, compared to only 38% of those in the supportive treatment group and 25% from the no-treatment control group. These data indicate that, although a certain number of preschoolers meeting the criteria for ADHD will show improved behaviour over time even when no intervention is received, the parent-training intervention tested in this study more than doubled the number of children for whom this was the case. The magnitude of the improvement reported for preschoolers in this group was comparable to that has been reported for stimulant medication treatment in this age group.

Similar results were obtained for maternal ratings of well-being, sense of parental efficacy, and feelings of satisfaction as a parent. Compared to mothers in the supportive treatment and waiting-list control group, mothers who learned specific parenting skills reported greater feelings of well-being,

parental efficacy, and parental satisfaction immediately following treatment. Although there was some decline in all three areas over the next 15 weeks, they were still doing better than the other mothers at this time. Mothers who received supportive treatment, although not doing as well as those who learned specific parenting skills, also tended to be feeling somewhat better than mothers in the control group at the end of treatment. However, this did not persist.

Summary and Implications

The results of this study clearly indicate that behavioural interventions in which parents are taught specific strategies/skills for managing the difficult behaviour of preschoolers with ADHD can produce significant improvements for a large percentage of these children. The gains that can be expected include: reductions in core AD/HD symptoms, reduced oppositional behaviour, and greater feelings of well-being, sense of parental efficacy, and sense of parental satisfaction in the mothers of these children.

These results are important for several reasons. First, they provide a firm basis for the recommendation that behavioural intervention - rather than stimulant medication - is an appropriate first line treatment for preschoolers with AD/HD. When done well, it appears that many AD/HD preschoolers may improve to the point where the use of stimulants is no longer necessary. Second, it is especially encouraging, I think, that the program used to produce these gains could be realistically available on a widespread basis. Remember that the gains reported were for a program that consisted of eight weekly one-hour home visits. This truly is the type of intervention that could be made available in many communities. In contrast, the behavioural intervention used in the MTA study (see link below) has been criticized on the basis that it was so comprehensive that it really could not be realistically implemented outside of the research setting. Perhaps significant gains from behavioural treatment using a relatively brief intervention are more easily obtained when children are younger and more malleable.

(MTA Study:
www.attention.com/library/articles/article.jsp?id=145&parentCatId=6&categoryId=37).

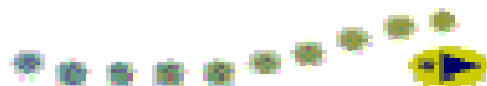
As with any study, there are some caveats that are important to note. first, although the

parent-training intervention resulted in clinically significant improvement in 53% of the preschoolers, still nearly half did not obtain such benefit. This represents a large number of preschoolers with AD/HD for whom additional interventions would be required. Perhaps a longer and more intensive behavioural approach would have promoted gains in his group. Or, this may be a group for whom treatment with stimulant medication turns out to be an appropriate option.

(Note: There currently is a large-scale study underway of stimulant medication in preschoolers with ADHD. In this study, a course of behavioural treatment similar to what was used here will first be implemented with all participants, and medication will only be tried for children who do not respond to the behavioural approach. This study thus promises to shed important light on the efficacy and safety of stimulant medication for ADHD preschoolers who are not helped significantly by behavioural treatment alone. It is likely to be several years, however, before the results of this study are available.)

Second, we cannot be sure from this study what the longer-term impact of the behavioural intervention is likely to be. It would be very informative to follow the children treated successfully in this study and see how they do over time. One possibility is that they continue to do well and their symptoms remain manageable. This would be very exciting indeed, as it would suggest that early intervention could change the developmental course in children showing early signs of ADHD. Alternatively, as these children get older and enter school, their symptoms may become more prominent and require other treatments to manage them effectively.

Let's hope that more information on this important development question becomes available within the next several years.



The following concerns a question in a physics degree exam at the University of Copenhagen:

"Describe how to determine the height of a skyscraper with a barometer." One student replied:

"You tie a long piece of string to the neck of the barometer, then lower the barometer from the roof of the skyscraper to the ground. The length of the string plus the length of the barometer will equal the height of the building."

This highly original answer so incensed the examiner that the student was failed immediately.

The student appealed on the grounds that his answer was indisputably correct, and the university appointed an independent arbiter to decide the case. The arbiter judged that the answer was indeed correct, but did not display any noticeable knowledge of physics. To resolve the problem it was decided to call the student in and allow him six minutes in which to provide an oral answer which showed at least a minimal familiarity with the basic principles of physics.

For five minutes the student sat in silence, forehead creased in thought. The arbiter reminded him that time was running out, to which the student replied that he had several extremely relevant answers, but couldn't make up his mind which to use. On being advised to hurry up the student replied as follows:

"Firstly, you could take the barometer up to the roof of the skyscraper, drop it over the edge, and measure the time it takes to reach the ground. The height of the building can then be worked out from the formula $H = 0.5g \times t^2$. But bad luck on the barometer."

"Or if the sun is shining you could measure the height of the barometer, then set it on end and measure the length of its shadow. Then you measure the length of the skyscraper's shadow, and thereafter it is a simple matter of proportional arithmetic to work out the height of the skyscraper."

"But if you wanted to be highly scientific about it, you could tie a short piece of string to the barometer and swing it like a pendulum, first at ground level and then on the roof of the skyscraper. The height is worked out by the difference in the gravitational restoring force $T = 2\pi \sqrt{l/g}$."

"Or if the skyscraper has an outside emergency staircase, it would be easier to walk up it and mark off the height of the skyscraper in barometer lengths, then add them up."

"If you merely wanted to be boring and

orthodox about it, of course, you could use the barometer to measure the air pressure on the roof of the skyscraper and on the ground, and convert the difference in millibars into feet to give the height of the building."

"But since we are constantly being exhorted to exercise independence of mind and apply scientific methods, undoubtedly the best way would be to knock on the janitor's door and say to him 'If you would like a nice new barometer, I will give you this one if you tell me the height of this skyscraper'."

The student was Niels Bohr, the only Dane to win the Nobel prize for Physics.

Effect of Glyconutritionals on the Severity of Attention-Deficit Hyperactivity Disorder

Kathryn D Dykman; Ray N McKinley

Abstract

To study the effect of polysaccharide supplements upon the severity of symptoms in children with a diagnosis of Attention-Deficit Hyperactivity Disorder (ADHD), 19 ADHD children were recruited from a parent support group and were assessed initially and 6 to 8 weeks later for inattention, hyperactivity-impulsivity, and health benefits. All subjects received glyconutritional supplements and phytonutritional supplements. At the time of the study, seven of the subjects were not on any medication; eight were on prescribed doses of methylphenidate, three had previously taken methylphenidate and had stopped, and one was on an antidepressive medication. Glyconutritional supplements significantly decreased the number and severity of ADHD symptoms and improved health as rated by 32 indices. Age, gender, and drug/no drug conditions were not confounding influences. Present results suggest that symptoms of ADHD may be reduced by polysaccharides, which in the form of glycoconjugates play a crucial role in both cell communication and healthy functioning.

Introduction

In a previous study by Dylotnan et al.,¹ it was reported that glyconutritionals reduced the symptoms of attention-deficit hyperactivity disorder (ADHD) in subgroups of children on and not on methylphenidate. Moreover, there was an improvement in health as assessed by symptoms such as headaches and nausea.

This study replicates the findings of the previous study. The common symptoms of ADHD as listed in the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM IV)² are nine inattention symptoms, six hyperactivity symptoms, and three impulsivity symptoms. From these, two general types of AD/HD children are recognized: those in which the primary deficit is inattention and those in which the primary symptoms are hyperactivity-impulsivity,

Method

Nineteen subjects were recruited from a parent Support group in the Detroit area. The group was evenly distributed in age ranges (5 to 15) and gender.

Subjects were tested twice, initially and after taking the glyconutritional and phytonutritional products for 6 to 8 weeks. The glyconutritional product consisted of saccharides known to be important in cell communication and healthy functioning. The phytonutritional product was a mixture of glyconutritionals and various naturally ripened, flash freeze-dried fruits and vegetables rich in antioxidants and other nutrients required for optimal health. The amount of products consumed was weight dependent. Subjects who weighed 50 pounds or less took one glyconutritional capsule per day. Subjects who weighed 51-75 pounds took two capsules per day, and those who weighed over 75 pounds took three capsules per day. They also took one phytonutritional capsule or two edible phytonutritional supplements on the same weight schedule as for the glyconutritional supplements.

The dependent measures were parent ratings of inattention and hyperactivity on the Attention Deficit Disorders Evaluation Scale (ADES) developed by McCarney,³ and the sum of ratings on a 32-item health scale devised by the authors (see appendix). The ADES Scale has 22 items assessing attention and 24 items assessing impulsivity and hyperactivity. The items assessing inattention, impulsivity, and hyperactivity are summed and normed on the ADES to obtain a cut score for the presence or absence of ADHD. The first 25 of the health items were rated on a 5-point scale of severity; the last seven items were no-yes items. We summed the scores across the first 25 items and the last seven items separately.

Results

Figure 1 shows the mean ratings for the sums of the attention items for subjects before and after treatment. The decrease in scores from

initial to final ratings just missed statistical significance at the 0.05 level: $F=9.16$; $df=1,18$; $p<0.059$. The comparable ratings for the ADES hyperactivity/impulsivity ratings shown in Figure 2 attained significance: $F=13.31$; $df=1,18$; $p<0.003$. Not shown are the combined ratings for hyperactivity, impulsivity and inattention scales which were also statistically significant: $F=9.16$; $df=1,18$; $p<0.008$.

The ratings on the health scale were also highly significant. The means of the sums of the first 25 items are shown in Figure 3:

$F=15.53$; $df=1,18$; $p<0.002$. Not shown are the mean changes between initial and final ratings on the seven no-yes questions. These were also significant by the Wilcoxon signed ranks test used because of the ordinal nature of the data: $df=18$, $p<0.029$.

All dependent variables were tested for skewness and kurtosis and were normally distributed. More important, no dependent measures revealed a significant effect for gender, age, or the interaction of gender and age, either in between- or within-group analyses. Also, medication status (on or off stimulant medication) was not a confounding influence.

Discussion

This study replicates the earlier findings of Dykman et al.,¹ showing that glyconutritional products improve the health of ADHD subjects and reduce the number and severity of symptoms. However, neither study controlled for placebo effects. Until a study is conducted comparing the effects of an inert substance with glyconutritional supplementation, we cannot attribute the reported effects to supplementation per se. If the effects reported here are solely placebo, which we doubt, this also raises a problem for drug studies of ADHD. While there are a number of good double-blind drug studies with both pemoline and methylphenidate, none pinpoints the magnitude of placebo effects. Placebo itself may be a treatment when parents and/or teachers expect improvement,

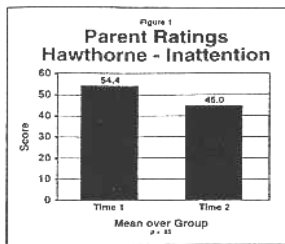


Figure 1. The means of the sums of the inattention items as rated by parents initially and after dietary intervention.

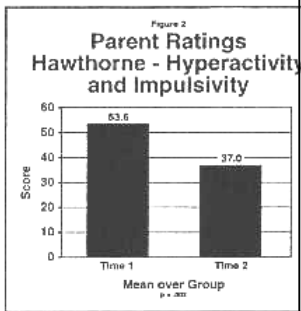


Figure 2. The means of the sums of the hyperactivity-impulsivity items initially and after dietary intervention.

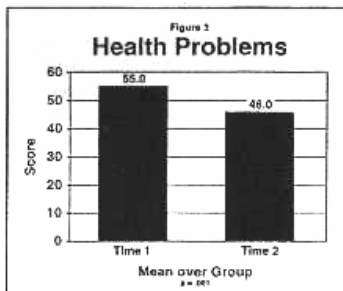


Figure 3. The means of the sums of the first 25 health items (see text) initially and after dietary intervention.

which subsequently effects the child's behavior. It seems unreasonable to us, although anything is possible, to expect placebo effects as strong as the effects reported in this study to persist for 6 weeks. Previous studies which have investigated the effect of glucose have not yielded positive results.⁴

In sum, this and the previous study suggest that ADHD children improve in both health and symptoms when placed on a dietary supplementation program of saccharides known to be important for healthy functioning and cell communication. Hence, it will be very important to investigate the effects of saccharides further in studies in which subjects are carefully matched for the number and severity of symptoms of inattention and/or

hyperactivity-impulsivity prior to assignment to a treatment or placebo group. The period of follow-up should be sufficiently long to obtain effect; our two studies suggest a minimum period of 6 to 8 weeks.

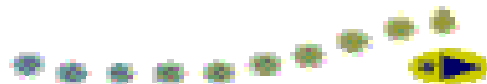
ACKNOWLEDGMENTS

The following categories of dietary supplements used in this study were supplied by Mannatech™ Incorporated, Coppell, Texas: Glyconutritional supple-ment (Ambrot6sem capsules), and phytonutritional supplement (Phyt'Aloe~ capsules or Phyt~Bears~ supplements).

Kathryn Dykman Received her medical degree at the University of Arkansas for Medical Sciences, Little Rock, Arkansas. Dr Dykman completed her residency in psychiatry and has a private psychiatric practice in Hot Springs, Arkansas, and is a medical consultant for Mannatech™ Inc. *Ray McKinley* earned his DDS from the University of Detroit Dental School. Dr McKinley is now in private dental practice and is an Associate of Mannatech™ Inc.

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I always like reading these, they remind me what's really important in life, I hope it does the same for you.

The paradox of our time in history is that we have taller buildings but shorter tempers; wider freeways, but narrower viewpoints. We spend

more, but have less; we buy more but enjoy less

We have bigger houses and smaller families, more conveniences, but less time; we have more degrees, but less sense; more knowledge, but less judgment; more experts, yet more problems, more medicine, but less wellness.

We drink too much, smoke too much, spend too recklessly, laugh too little, drive too fast, get too angry, stay up too late, get up too tired, read too little, watch TV too much, and pray too seldom.

We have multiplied our possessions, but reduced our values. We talk too much, love too seldom, and hate too often. We've learned how to make a living, but not a life, We've added years to life not life to years.

We've been all the way to the moon and back, but have trouble crossing the street to meet a new neighbor. We conquered outer space but not inner space. We've done larger things, but not better things. We've cleaned up the air, but polluted the soul. We've conquered the atom, but not our prejudice. We write more, but learn less. We plan more, but accomplish less. We've learned to rush, but not to wait.

We build more computers to hold more information to produce more copies than ever, but we communicate less and less.

These are the times of fast foods and slow digestion; big men and small character; steep profits and shallow relationships.

These are the days of two incomes but more divorce, fancier houses but broken homes.

These are days of quick trips, disposable diapers, throw-away morality, one-night stands, overweight bodies, and pills that do everything from cheer to quiet, to kill.

It is a time when there is much in the show window and nothing in the stockroom. A time when technology can bring this letter to you, and a time when you can choose either to share this insight, or to just hit delete.

Remember, spend some time with your loved ones, because they are not going to be around forever.

Remember, say a kind word to someone who looks up to you in awe, because that little person soon will grow up and leave your side.

Remember, to give a warm hug to the one next to you, because that is the only treasure you can give with your heart and it doesn't cost a cent.

Remember, to say "I Love you" to your partner and your loved ones, but most of all mean it. A kiss and an embrace will mend hurt when it comes from deep inside of you. Remember to hold hands and cherish the moment for someday that person will not be there again.

Give time to Love, give time to speak, give time to share the precious thoughts in your mind.

To all my friends in my life, thanks for being there!

****Attention-Deficit Hyperactivity Disorder Related To Advantageous Gene****

Source: University Of California, Irvine
(<http://www.uci.edu>) Date: Posted 1/9/2002

Irvine, Calif., Jan. 8, 2002 -- A variant form of a gene associated with attention-deficit hyperactivity disorder (ADHD) indicates that the disorder is a recent affliction and may once have helped humans thrive and survive, according to a UCI College of Medicine study. The human gene study, which appears in the Jan. 8 issue of Proceedings of the National Academy of Science, suggests that behavior now considered inappropriate in a classroom may be related to behavior that once helped humans overcome their environment.

Robert Moyzis, professor of biological chemistry, and his colleagues studied genes from 600 individuals worldwide. Among numerous new genetic variations of the receptor for the dopamine neurotransmitter, they found one linked strongly to both ADHD and a behavior trait called "novelty seeking," a condition often underlying addiction. Their analysis of the genetic variations also suggests that this variation occurred recently in human

evolution between 10,000 and 40,000 years ago.

"We found a significant positive selection for the genetic variation associated with ADHD and novelty-seeking behavior in the human genome,"

Moyzis said. "This study strengthens significantly the connection between genetic variations and ADHD. It also provides a clue as to why ADHD is so pervasive and may show us a way to provide more effective treatments."

The researchers found 56 variations, or alleles (al-LEELES) of a gene called DRD4, which produces the receptor for dopamine, a neurotransmitter. One allele, known as 7R, was strongly associated with ADHD. By analyzing the variations in DRD4, they also found that the 7R allele was created recently and may have provided an evolutionary advantage at some time in human history. The study could not determine, however, if that evolutionary selection is still occurring.

Brain cells signal each other with a number of neurotransmitters, including dopamine. The dopamine system, among other things, controls movement behavior and may be involved in learning and responding to psychological rewards. It also has been implicated in addictive behavior.

ADHD is the most common disorder in early childhood, affecting about 3 percent of all elementary school children in the United States. The disorder is marked by developmentally inappropriate conduct, lack of attention, impulsive and hyperactive behavior, all occurring before a child becomes 7 years old. Approximately half of children with ADHD have the 7R allele.

Between 10,000 and 40,000 years ago, anthropologists concur that humans were developing the first signs of complex societies, replete with agriculture, rudimentary governments and the creation of cities for the first time. Humans also were rapidly expanding and exploring the planet. These revolutionary changes in human societies may have changed the forces that selected for certain genetic traits.

"Our data show that the creation of the 7R allele was an unusual, spontaneous mutation, which became an advantage for humans," Moyzis said. "Because it was an advantage, the gene became increasingly prevalent. This is very different from other genes that

predispose to genetic disorders, where the mutations are detrimental. We believe this helps explain why a disorder with such a strong genetic association is so common today."

The researchers are now working on determining how the genetic variations in DRD4 may actually predispose individuals to ADHD and other behaviors, and on examining the relationship between other complex genetic variations and ADHD.

Moyzis's colleagues include Yuan-Chun Ding, Han-Chang Chi, Deborah Grady, Pam Flodman, M. Anne Spence, Sabrina Schuck and James Swanson of UCI; Ya-Ping Zhang of the Chinese Academy of Sciences, Kunming, China; and Atsuyuki Morishima, Judith Kidd and Kenneth Kidd of Yale University.

The study was supported by grants from the U.S. Department of Energy and the National Institute of Mental Health.

On the web at:
<http://www.sciencedaily.com/releases/2002/01/020109074512.htm>

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Naturally we are working on enlightening him and will keep you informed.

The issue of medication being administered in school during school hours has now passed into the hands of a Committee set up as a sub-committee of the Ministerial Committee for Inclusive Education. This is chaired by Miss Mary Rose Mifsud on behalf of the Education Department and has a representative of the KNPD. We will be following their progress closely!

I am sure you will all agree that January's meeting with Mr. Victor Galea of the FES was very interesting. For those of you who did not attend, we would ask you to kindly complete the attached questionnaire and return it directly to them. I know you are all very busy but this will help them to assess our needs, so maybe if you sit down for a cup of coffee/tea, you could do this.

We would once again like to remind members that the time has come for them to renew their annual subscriptions. Copies of the new Statute are also available from the Office wherein it states that the annual membership of Lm5 entitles a family to one vote at the AGM. If both parents would like to vote individually then an annual supplement of Lm2.50 should be paid. Please make cheques payable to the group and send them to the Hon. Treasurer at the above address on the front. Many thanks.
The Editor