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Highlights...

In our top story this month, Drs. Knopik and Bidwell discuss the growing interest in developmental and psychiatric genetics. They explain key concepts and how they translate to clinical issues.

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Keep Your Eye On... See page 2

- Cognitive bias modification training effective in teens
- Childhood trauma associated with adolescent psychotic symptoms

What's New in Research... See pages 3–5

- Parent-focused early intervention protective against anxiety
- Self-injury common in teens with eating disorders
- Shared decision making in ADHD

Editor's Commentary

- Back in play: Is child's play making a comeback?
  — *By Gregory K. Fritz, M.D.*
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Free Parent Handout...

Does Your Child Have an Anxiety Disorder?

Psychiatric Genetics

The landscape of developmental and psychiatric genetics: The example of ADHD

By Valerie S Knopik, Ph.D., and L. Cinnamon Bidwell, Ph.D.

The quickly changing landscape in developmental and psychiatric genetics means that interpreting genetic research can be difficult for those outside of the field. Problems arise when the public gets most of its information about genetics from the media, whose representations are often inaccurate or exaggerated — sometimes called "genohype."

For example, common language often refers to DNA as the "genetic code," which suggests genetic risk is fixed and deterministic in nature. In February 2010, EzineArticles.com previewed a forthcoming article in *Molecular Psychiatry* (Arcos-Burgos et al., 2010) describing, "...an amazing announcement...that researchers have discovered a gene (LPHN1) that not only predicted individuals who would be susceptible to attention-deficit/hyperactivity disorder (ADHD) but that also forecasted the ADHD patients that would have a positive response to stimulant medication."

In fact, this article suggests a novel gene is associated with increased risk for ADHD, with those who have the risk-conferring variant at 1.2 times the risk of those who don't. The authors state that, based on *preliminary* calculations that need replication, controlling this gene might reduce the incidence of ADHD by 9% in a Norwegian population.

The media's tendency to sensationalize like this can create confusion about how much genetic research actually tells

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Pediatric Anxiety Disorders

Pediatric anxiety: How family accommodation may hinder treatment

By Kristen Grabill Benito, Ph.D., and Jennifer Freeman, Ph.D.

Anxiety disorders represent the most common group of psychiatric disorders in children, with prevalence rates of 12% to 20%. Anxiety disorders in childhood cause impairment across multiple domains, including academic and interpersonal functioning, and are associated with lower levels of social supports and high comorbidity with other disorders. Additionally, untreated pediatric anxiety disorders often continue into adulthood.

Despite the availability of efficacious treatments for childhood anxiety disorders, including cognitive behavioral therapy (CBT) and pharmacological treatment with selective serotonin reuptake inhibitors (SSRIs), there remain children who do not respond optimally to these treatments. Therefore, clinicians and researchers have increasingly become interested in identifying barriers to successful treatment so that those barriers may also be targeted to enhance treatment outcome. Family accommodation is one such barrier.

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between genes and environmental factors, limited prevention resources could be allocated more efficiently.

For example, even if we don't consider specific genes involved, if we know that ADHD is genetically influenced (e.g., heritability of 80% in the population) and that there is clear evidence for the importance of prenatal, early postnatal, and familial factors, it would make sense to take a more comprehensive approach to treatment and adopt more of a family-based rather than individual-based treatment program. Eventually, we may also be able to consider specific genes in this treatment and prevention equation (see *Pharmacogenetics* below).

Pharmacogenetics. The emerging field of pharmacogenetics aims to use a patient's genetic profile to help predict an individual's response to certain medications, including unwanted side-effects. This represents a revolution in medicine, which has traditionally been a science of averages. To clarify, in the past, if a medication only worked in 10% of the population, that medication may have historically been considered a failure (even though it worked in a subset of individuals). The promise of pharmacogenetics suggests that a medication may work significantly better in a genetically-defined subset of the patient population, thereby providing an opportunity to reclaim such medications into clinical practice. It also allows for the development of new drugs.

In the case of ADHD, it is possible that patients who arrive at an ADHD diagnosis through different genetic/biological pathways may respond differently to medications dependent on the pathway of risk. In the aforementioned Arcos-Burgos article, the authors examined whether their novel gene was associated with the effectiveness of stimulant medication in ADHD. They specifically asked about ADHD symptom severity while both *on* and *off* stimulant medication and found *suggestive* evidence that *one* marker within the LPHN1 gene was predictive of response. The authors state, "This opens a window for the evaluation of molecular substrates of ADHD and development of new drugs targeting new genes and brain pathways involved in ADHD." This new strategy is called Personalized Medicine and holds the promise of more effective treatments, and better utilization of treatment resources.

Direct-to-consumer genetic testing is increasingly popular over the Internet. While such genetic testing is reliable, the information provided by such a test is often overestimated. One needs to use caution when interpreting these tests as only some of the genes for a polygenic condition will be measured. Moreover, such a genetic test will not include any of the environmental risks associated with the disorder.

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Family accommodation in childhood anxiety: Clinical examples

Anxiety Disorder:	Examples of Accommodation
Obsessive-Compulsive Disorder (OCD)	1. Helping child complete rituals (for example, examining food for contamination) 2. Providing materials for rituals (buying extra soap) 3. Performing tasks for child (flushing the toilet)
Generalized Anxiety Disorder (GAD)	1. Providing reassurance related to a number of daily worries 2. Allowing child to avoid household tasks (not taking out the trash at night due to fear of dark) 3. Facilitating avoidance of feared situations (parent ensures child is always on time to avoid worries about being late)
Social Phobia (SP)	1. Allowing child to avoid age-appropriate tasks/errands (answering the phone, shopping) 2. Facilitating avoidance of performance situations (parent speaking for a child) 3. Facilitating avoidance of social situations (home-schooling due to anxiety)
Separation Anxiety Disorder (SAD)	1. Rearranging child's schedule to avoid/delay separation (taking child to school late) 2. Rearranging family routines to avoid separation (allowing child to sleep in parent's bed) 3. Providing reassurance at separation (when dropping child off at school)

Anxiety

From page 1

What is family accommodation?

Family accommodation has been clinically reported as a barrier to pediatric anxiety treatment by virtue of being counter to the principles of CBT (these principles include, among others, encouraging children to confront feared objects or situations). Family accommodation refers to ways in which family members accommodate patient symptoms, such as providing reassurance, allowing children to avoid feared stimuli, taking over a child's duties, participation in rituals, and modifying family routines. Theoretically, family accommodations reinforce a patient's symptoms, thereby increasing symptom severity and adversely affecting treatment outcome.

Family accommodation in OCD

In children with Obsessive-Compulsive Disorder (OCD), characterized by intru-

sive thoughts and maladaptive rituals, up to 90% of families report at least minimal accommodation of symptoms. In children with OCD, high levels of family accommodation are related to increased symptom severity, greater functional impairment, and presence of more comorbid internalizing and externalizing behavior problems. Some studies have shown that baseline family accommodation is related to symptom severity after treatment with CBT, suggesting that family accommodation hinders progress in treatment (Amir, Freshman, & Foa, 2000). This seems to indicate that family accommodation should be addressed as part of treatment with CBT.

Similarly, another study reported that patients who did not respond to CBT treatment demonstrated the highest levels of family accommodation of all patients in the study (Ferrao et al., 2006). In that study, 52.4% of patients not responding to treatment were classified as having extreme family accommodation, compared with only 3.8% of treatment responder families.

In a study of CBT for pediatric OCD that included components designed to address family accommodation, researchers reported that family accommodation was reduced following treatment (Storch et al., 2007). However, researchers in that study did not directly investigate whether response to treatment was a result of reduced family accommodation.

Family accommodation in other anxiety disorders

Similar to the manner in which family accommodation is theorized to interfere with treatment of OCD by reinforcing symptoms, families of children with other anxiety disorders may also be reinforcing symptoms through accommodation. In generalized anxiety disorder (GAD), for example, parents may provide reassurance about many different worries, or allow their children to avoid situations which might elicit anxiety (e.g., watching the news).

In social phobia (SP), parents may allow their children to avoid feared social situations, or rearrange family routines to accompany the child to social situations that the child might otherwise fear. By nature of the disorder, parents of children with separation anxiety disorder (SAD) are involved in symptoms. Parents of children with SAD likely spend extra time upon separating trying to reassure the patient, or rearrange family schedules to allow children to avoid separation. Accommodating behaviors such as these have the potential to interfere with treatment, as they may undermine techniques that are central to completion of CBT.

Despite the theoretical rationale for studying family accommodation in children with GAD, SP, and SAD, as well as clinical reports regarding its interference during CBT, studies have not investigated family accommodation in this group of children. The primary reason for lack of research in this area is related to the need for a reliable and valid measure to assess family accommodation in this population.

Preliminary results from an ongoing study in the Pediatric Anxiety Research Clinic (located at Rhode Island Hospital, in affiliation with Brown University) support the reliability and validity of the Pediatric Accommodation Scale (PAS), a family accommodation measure designed for use in this population. In a preliminary sample of 59 children with GAD, SP, or SAD and their parents, accommodation of anxiety symptoms in the previous week was endorsed by over 90% of parents. Most commonly, parents reported providing reassurance to their children and helping their children avoid anxiety-provoking stimuli. Additionally, over 75% of parents reported feeling distressed when accommodating their child's symptoms, which suggests that many parents accommodate reluctantly.

This information is important for intervention, as it may indicate that parents are interested in learning new skills for responding differently when their children are anxious. Over half of parents reported that their child's anxiety increased when accommodation was not provided, with a significant minority (over 40%) reporting other consequences of nonaccommodation, such as angry/abusive behavior or sad/down behavior. Endorsement of these items demonstrates that child emotional reaction or behavior is one factor that could maintain parent accommodation of pediatric anxiety symptoms.

In addition to a significant portion of parents reporting accommodation, preliminary results in children with GAD, SP, and SAD indicate that higher levels of family accommodation are related to higher levels of impairment due to anxiety, and to higher overall anxiety severity. Interestingly, family accommodation was strongly related to parent symptoms of both depression and anxiety. These findings suggest that parents with higher levels of their own symptoms engage in more accommodation of child symptoms.

As well, results showed that higher frequency of accommodation is associated with lower levels of overall family flexibility. It seems that families that are less flexible may need additional support to target accommodation that could interfere with CBT treatment. Additionally, families in which parents are experiencing symptoms of anxiety and depression may also need targeted intervention to facilitate reduced accommodation.

In conclusion

Family accommodation appears to be an important construct that is related to impairment, symptom severity, and treatment outcome in children with OCD. Preliminary research from our laboratory suggests that it may play a similar role in children with GAD, SP, and SAD. However, more research is needed to determine the cause-effect relationship (i.e., whether increased symptoms lead to increased accommodation or vice-versa) and to directly investigate the role of family accommodation in treatment for pediatric anxiety.

Many clinicians and researchers include reduction of family accommodation as an important part of treatment; however, its contribution to treatment outcome has yet to be investigated.

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