

Although AD/HD was once viewed as only a childhood disorder, we now know that it frequently persists into adulthood.

by Stephen V. Faraone, Ph.D.

How Prevalent is AD/HD in Adults?

PREVALENCE is the number of individuals within a population that have a specific disease. Many studies have examined the prevalence of attention-deficit/hyperactivity disorder (AD/HD) in children both in the United States and abroad. A review of the published work for the years 1982 to 2001 suggests that the prevalence of AD/HD in children is similar around the world, approximately 10 to 12 percent using the most recent definition of the disorder.^{1*} In contrast to the extensive data about prevalence in children, relatively little is known about the prevalence of AD/HD in adulthood.

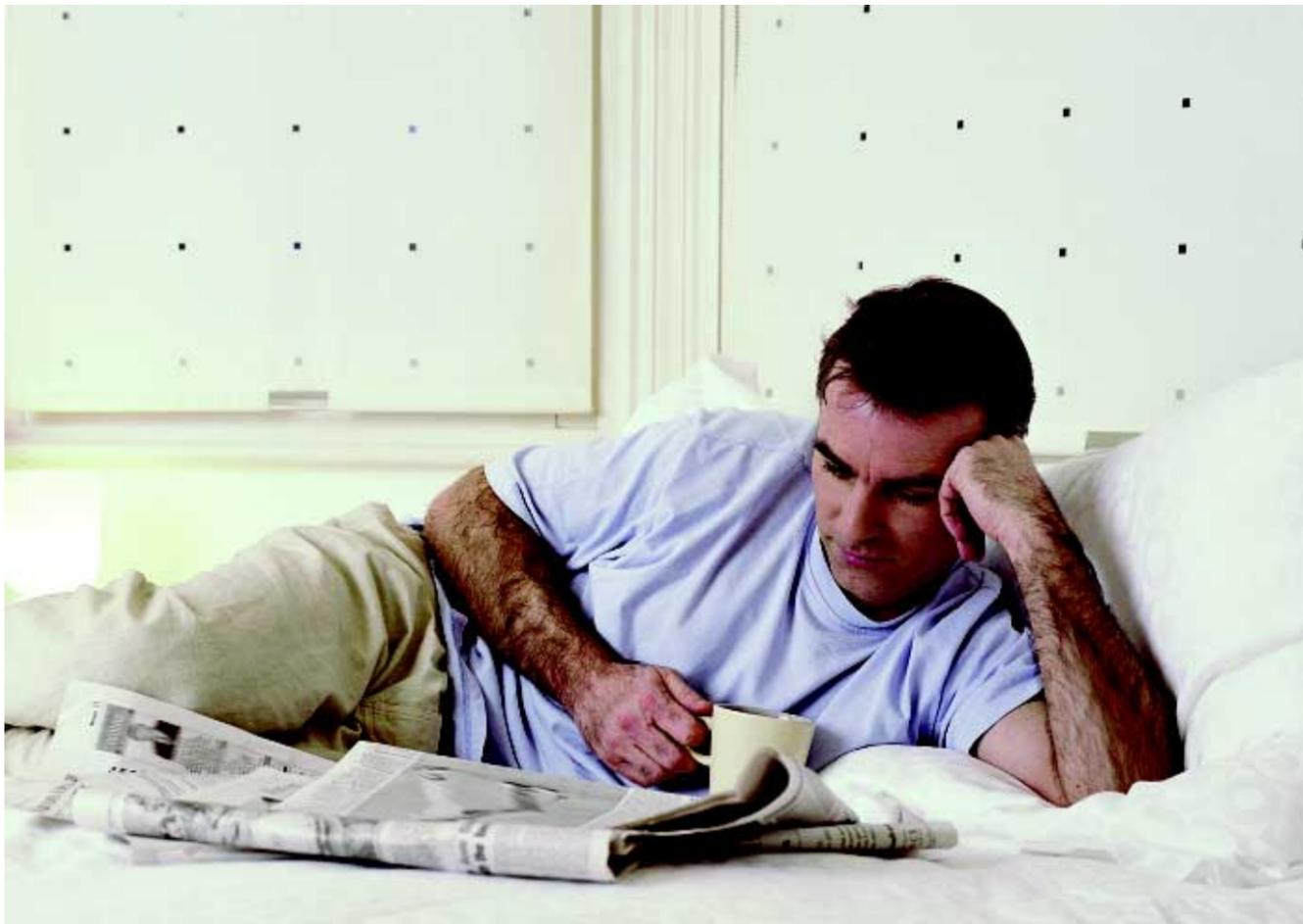
Why is this important? Parents of children with AD/HD need this information because it gives them some idea of what the future might hold. For example, if the prevalence of adult AD/HD is very low, say one percent, it would suggest their child's AD/HD would likely disappear by adulthood. Knowledge of the prevalence of adult AD/HD also has important implications for clinical practice. If clinicians believe a disorder is rare, they will be skeptical about apparent diagnoses and less likely to diagnose the disorder. If they view a disorder as common, they are more likely to be on the lookout for it when assessing the symptoms of their patients.

In the case of adult AD/HD, knowledge of prevalence may be especially important for primary care physicians (PCPs). In contrast to the standard of care for children where screening for AD/HD is routine, screening of adults for AD/HD is not. This may reflect the lack of training in AD/HD provided to PCPs, but it may also indicate skepticism about the validity of the disorder in adults.

Most estimates of the prevalence of adult AD/HD have been indirect, relying on three types of studies: (a) longitudinal follow-up studies of children with AD/HD into adulthood; (b) community surveys using samples of convenience; and (c) family studies of childhood AD/HD that examined the prevalence of AD/HD in the adult relatives of children without AD/HD who were used as a comparison group. These studies provide useful information but must be interpreted with caution because they lack those features of epidemiologic population studies that allow the development of firm conclusions about prevalence that can be generalized to the entire population.

Longitudinal studies are useful because if we know the prevalence of AD/HD in childhood and we have a good estimate of its degree of persistence into adulthood, we should be able to estimate its prevalence in adulthood. To date, seven studies have followed children with AD/HD into early adulthood. These studies provide information about two types of AD/HD in adults: (a) those meeting full criteria for AD/HD in

* In a September 2005 Centers for Disease Control and Prevention (CDC) *Morbidity and Mortality Weekly Report*, parents in the United States self-reported prevalence of AD/HD in youths ages 4–17 was 7.8 percent (4.4 million) (www.cdc.gov/mmwr/preview/mmwrhtml/mm5434a2.htm) accessed on 11/11/05.



Studies suggest that AD/HD in adulthood is not usually treated, probably due to a lack of training of primary care doctors, most of whom were trained at a time when AD/HD was believed to be rare or non-existent in adults.

adulthood and (b) those who do not meet full criteria but who show some AD/HD symptoms that cause impairments in life activities. This second group is what psychiatry's diagnostic manual defines as AD/HD in partial remission. Examination of these studies shows the mean persistence rate is 32 percent for the full diagnosis and 60 percent for the partial diagnosis. Assuming a population prevalence of 10 percent in childhood, these studies suggest the prevalence of adult AD/HD to be 3.2 percent for the full diagnosis and 6.6 percent for the partial diagnosis.

Another estimate of the prevalence of AD/HD in adulthood comes from family studies of children with AD/HD. These studies have recruited children with and without AD/HD and all their family members with the goal of testing to see if AD/HD runs in families. Because many of these studies examined the parents of children without AD/HD, they provide us with another estimate of the prevalence of AD/HD in adults. These studies estimate that among the parents of children without AD/HD, six percent have had childhood-onset AD/HD.

Two studies estimated the prevalence of adult AD/HD in community samples of convenience, so called because they did not use the rigorous sampling methods of epidemiology to assure that their samples were representative of the general population. One study that used a self-report measure to assess AD/HD among adults applying for driver's licenses found a 4.7 percent prevalence of AD/HD. The other assessed AD/HD among adult college students; 4 percent of these young adults met criteria for the disorder.

These prior studies are limited in several ways. Results from longitudinal studies may not generalize to youth with AD/HD in the general population. Similarly, community samples of convenience and family studies may not generalize to the general population. The prevalence of AD/HD among the adult relatives of children without the disorder could underestimate prevalence because such samples would be expected to have a lower number of AD/HD-susceptibility genes than an unselected population.

These limitations have been addressed by two recent studies. In the National Comorbidity Survey

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Project, Ronald Kessler, Ph.D., and colleagues screened for AD/HD in 3,199 adults using a self-report questionnaire about AD/HD symptoms.² This questionnaire could not diagnose AD/HD but could suggest who might have the disorder. The authors then interviewed 154 of the 3,199 participants including many who, based on the questionnaire, might have AD/HD. This method allowed them to estimate the prevalence of AD/HD in adults to be 4.4 percent. AD/HD participants were more likely to be male, previously married, unemployed, non-Hispanic white and to have other psychiatric disorders. The majority of cases were untreated.

In another recent study, Faraone and Biederman analyzed the results of a telephone survey of 966 randomly selected adults to determine the prevalence of AD/HD in adults and its association with demographic factors and impaired occupational and educational functioning.³ They computed two diagnoses from the survey data: the Narrow diagnosis estimated the prevalence of AD/HD in adulthood by selecting a group of adults showing strong evidence for AD/HD in both childhood and adulthood. The Broad diagnosis was intended to estimate the prevalence of adults

who might have AD/HD. This Broad diagnosis would be useful for identifying patients for further assessment by a clinician. They estimated the prevalence of adult AD/HD was 2.9 percent for Narrow AD/HD and 16.4 percent for Broad AD/HD.

Study results found that AD/HD was more common in urban than rural settings and more prevalent in the northeastern and north central states than in southern or western states. These regional differences suggest adults with AD/HD may select environments based on the degree to which they accommodate AD/HD symptoms. For some adults with AD/HD, the quick pace of urban living might be more attractive than the slower pace of rural life in the same manner that many children with AD/HD prefer fast-paced video games to other activities. Regional differences might also be due to differences in sub-cultural interpretations of AD/HD symptoms. Individuals with AD/HD were less likely to have ever been married and were less likely to have either gone to college or graduated college and more likely not to have completed high school. Compared with subjects not having the disorder, those with AD/HD were more likely to be unemployed.

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In a summary of the current data about the prevalence of AD/HD in adults, estimates are not much different from one another, which suggests that we can be confident in the results. The estimates range from 2.9 to 6.0 percent, with an average of 4.5 percent.

Although 4.5 percent seems to be a small number, it translates into tens of millions of adults with AD/HD and has important implications for parents and clinicians. For parents of children with AD/HD, the follow-up studies of AD/HD are the most relevant. These suggest that the full diagnosis of AD/HD persists in 32 percent of children with AD/HD, whereas 60 percent will have a partial diagnosis in adulthood. Also, we know from other work that many children who do not have either a full or partial diagnosis will continue to have some life impairments.

For clinicians, the 4.5 percent prevalence of AD/HD in adulthood suggests that, rather than being skeptical of apparent cases of AD/HD in adults, clinicians should assess such cases to determine if the diagnosis is warranted. Otherwise, these patients may

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not be considered for the pharmacotherapeutic treatments known to be effective for AD/HD in adulthood. Given the high prevalence of AD/HD in adults and its high co-occurrence with mood, anxiety and substance use disorders, psychiatrists should consider AD/HD as a possible co-occurring diagnosis for many of their patients, especially for those who show continued impairment despite aggressive treatment of the primary disorder. For primary care clinicians, the high prevalence of AD/HD suggests that screening patients for AD/HD should be considered.

In summary, although AD/HD was once viewed as only a childhood disorder, we now know that the disorder frequently persists into adulthood. Yet, other studies suggest that AD/HD in adulthood is not usually treated, probably due to a lack of training of primary care doctors, most of whom were trained at a time when AD/HD was believed to be rare or non-existent in adults. As a result, it can be difficult for the adult who had AD/HD as a child to find a clinician who will treat the disorder. This problem is currently being alleviated by educational programs for doctors,

but adults with AD/HD may need to actively advocate for treatment by searching for a doctor who understands the nature and prevalence of AD/HD in adulthood. ■

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