Editorial



## "The tale of ADHD treatment - each was partly in the right and all were in the wrong"

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ADHD is one of the most common psychiatric disorders in children and adolescents. It is, however, a disorder that extends into adulthood, and often leads to challenges in a wide range of areas and a poor long-term prognosis (1, 2). The latter is the case for some, but not everyone with ADHD has a poor prognosis. Importantly, we do not know exactly what distinguishes the people with ADHD who experience a continuous burden of the disorder, from the people in which it seems almost as a source of strength (3, 4). We still have very little knowledge about resilience and prognostic factors associated with clinical outcomes. The importance of psychosocial factors as well as how environmental factors affect clinical outcomes are yet to be fully uncovered, notwithstanding the evidence of diagnostic validity and treatment options in the long term.

Another approach could be to accept that ADHD might be a disorder, which comprises a wide range of problems, and that we will never find a "one size fits all"-explanation for the prognostic differences in people with the disorder. We argue for embracing the fact that working with multi-stressed families is inherently complex (5), thus, research and clinical work in child- and adolescent psychiatry must embrace this complexity (6-8). This approach can address the ongoing debate of whether ADHD should be considered an actual diagnosis or if we are over-diagnosing children with ADHD (9, 10). We cannot help but wonder why the long-term followup studies on ADHD do not provide solid knowledge on potential consequences from medicating children and adolescents. Just as importantly, we are yet to understand the implications of failing treatment compliance sufficiently.

Interestingly, one of the few long-term follow-up studies available found it difficult to predict anything regarding a long-term prognosis of symptom load and treatment of choice. A study by Klein and Mannuzza included a large group of children diagnosed with ADHD. The children were without any comorbidity at the point of inclusion and the vast majority received medical treatment. Although great efforts had gone into recruiting a homogeneous group, the participants differed greatly in their developmental trajectories throughout the years of the study.

In this study, remarkably, what appeared to determine whether participants developed a normal level of function or had a life affected by increased risk of substance abuse, crime and early death was the development of comorbid conduct disorder. Whether participants received medical treatment or not did not appear to be a determining factor (11–13).

The MTA-study, which continues to provide valuable knowledge about long-term effects in treating ADHD have produced similar finding. We are, however, also in this case yet to gain a satisfactory answer to whether medication or other treatment strategies are most beneficial.

It has been found in some trials, that level of social functioning in the child had a significant impact on the treatment response – regardless of the type of treatment they were assigned in the randomization procedure (14, 15).

Should we with the paucity of robust high-certainty evidence discard the idea that medical treatment or parental training is not working? Is it possible that we, in our great efforts to understand ADHD and discover the optimal treatment, are acting much like the researchers in John Godfrey Saxe's poem about the blind men and the elephant?

> "And so these men of Indostan Disputed loud and long, Each in his own opinion Exceeding stiff and strong, Though each was partly in the right, And all were in the wrong!"

Perhaps there is a need to pause and recognize that when you have a child with ADHD symptoms, you have a child with ADHD symptoms. That is all you can say without looking closely at every bit and part of the child and the family. From there on the detective-work begins. What is right for one child is not necessarily right for the next child in line. Inheritance does not exclude environmental influence and vice versa. Focusing solely on the effect of one treatment factor at a time is traditionally helpful when conducting research. For ADHDresearch, however, it will leave us with an incomplete understanding of the complexity of each child's situation. The same goes for focusing solely on the current symptom load of the child.

A Norwegian study found that children who are genetically predisposed for ADHD are more likely to get by without medical treatment when provided with school settings that are organized and predictable (16). Other studies investigating impact of environmental factors have found parents of children with ADHD to have a higher incidence of mental illness (17, 18). One could ask whether these strained parents receive enough support to, in return be able to support their child (19).

Moreover, children with ADHD as well as parents of children with ADHD have a significantly higher risk of being classified as insecurely attached, which is known to have a significant impact on general functioning (20–23). Are we sufficiently tuned in on what attachment insecurity may signify in families battling ADHD?

Is it possible that environmental factors are not only decisive in the well-being of children and adolescents with ADHD, but also more explicitly determining whether they will benefit from medical treatment? Maybe the medical treatment should be viewed as a window of opportunity. When opening this window what awaits the child on the other side may be conclusive for treatment success. Could we strive for an environment that is supportive of the child and its family in all societal areas before opening the window of opportunity? Would the effect of medical treatment improve significantly - if still needed? Would it help us to differentiate between the children who benefit from medical treatment and the children who are primarily in need of environmental support?

If we do not take the above questions into consideration, there is a risk that we do not help the child, but merely ourselves, by making the symptoms appear less evident for a brief moment.

Maybe effective treatment of ADHD does not require, nor exclude medication (24).

In other words, as John Godfrey Saxe would put it: perhaps we are partly in the right and all in the wrong. Perhaps the problem is the lack of a more individualized assessment, co-research and cocreated treatments of each child including the resources available within the child and around it. This assessment should be in line with each family's individual problems, resources, and goals (25, 26). This leads us to a new and bigger question: How can we conduct research in complex matters like ADHD that requires complex answers? Maybe there is a beauty in the complexity and a way to embrace it both clinically and in research (27). Is the time right to move away from a reductionist research paradigm and create a new one?

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