

A safe approach to treating anxiety in adolescents: an opinion

Erin N Gerhert, Christine McVan, Hatim A Omar

Lehigh Valley Reilly Children's Hospital, Lehigh Valley Health Network, Allentown, PA

Correspondence: Christine McVan. Email: Erin_N.Gerhart@lvhn.org

Received: 10/1/2022; **Revised:** 3/2/22; **Accepted:** 8/2/2022

Keywords: anxiety, depression, suicide

[citation: Gerhert, Erin N., McVan, Christine., Omar, Hatim A. (2022). A Safe approach to treating anxiety in adolescents: an opinion. Dynamics of Human Health (DHH), 9(1): http://journalofhealth.co.nz/?page_id=2673]

Introduction

Anxiety disorders are among the most common emotional difficulties in adolescents. Anxiety is highly prevalent in youths. More than 5 million children in the US suffer from an anxiety disorder (Malka, 2021). They can significantly disrupt the lives of adolescents and their families. They can present a risk for lifelong psychological disturbance. In the US, lifetime prevalence of anxiety in adolescents is more than 28%. Generally, the onset is in childhood or early adolescence. In this article, we share our view in treating anxiety compared to the established practices used by most psychiatrists.

Anxiety disorders are among the most common mental, emotional, and behavioral problems that can occur in young people. About 13 of every 100 children and adolescents aged 9 to 17 experience some kind of anxiety disorder. Girls are affected more than boys. About 50% of children and adolescents with anxiety disorders have a second anxiety disorder or other mental/behavioral disorder. Anxiety disorders may coexist with physical health conditions as well. Anxiety is a general feeling of apprehension or worry and is a normal reaction to stressful situations. Red flags should go up when the feelings become excessive, thoughts become irrational and everyday functioning is debilitated. Anxiety disorders are characterized by excessive feelings of panic, fear, or irrational discomfort in everyday situations. Anxiety can manifest with a sense of dread, fears of impending doom, a sense of suffocation, anticipation of unarticulated catastrophe, loss of control over one's breathing, swallowing, speech, and coordination and somatic complaints. Physical Symptoms of anxiety may include: twitching or trembling, muscle tension, headaches, sweating, dry mouth, difficulty swallowing, abdominal pain (may be the only symptom of stress especially in a child), Dizziness, rapid or irregular heart rate, rapid breathing, diarrhea or frequent need to urinate, fatigue, irritability, including loss of temper, sleeping difficulties and nightmares, decreased concentration and sexual problems.

Anxiety may present as:

Generalized Anxiety Disorder (GAD): GAD results in patients experiencing six months or more of persistent, irrational and extreme worry, causing insomnia, headaches, and irritability.

Post-Traumatic Stress Disorder (PTSD): PTSD can follow an exposure to a traumatic event such as natural disasters, sexual or physical assaults, or the death of a loved one. Three main symptoms: reliving of the traumatic event, avoidance behaviors and emotional numbing, and physiological arousal such as difficulty sleeping, irritability or poor concentration.

Panic Disorders: Characterized by unpredictable panic attacks, which are episodes of intense fear, physiological arousal, and escape behaviors. Common symptoms: heart palpitations,

shortness of breath, dizziness and anxiety and these symptoms are often confused with those of a heart attack.

Specific Phobias: Intense fear reaction to a specific object or situation (such as spiders, dogs, or heights) which often leads to avoidance behavior. The level of fear is usually inappropriate to the situation and is recognized by the sufferer as being irrational

Social Phobia: Extreme anxiety about being judged by others or behaving in a way that might cause embarrassment or ridicule and may lead to avoidance behavior.

Separation Anxiety Disorder: Intense anxiety associated with being away from caregivers, which results in young children clinging to parents or refusing to do daily activities such as going to school.

Obsessive-Compulsive Disorder (OCD): Patients may be plagued by persistent, recurring thoughts (obsessions) and engage in compulsive ritualistic behaviors in order to reduce the anxiety associated with these obsessions (e.g. constant hand washing).

All forms of anxiety may lead to school failure, absenteeism, classroom disruption, the inability to complete basic tasks, family stress and impaired social relationships.

Treatments and therapies

Current therapies for anxiety include psychological counseling such as cognitive-behavior therapy (CBT) and pharmacologic treatment. Early effective treatment in adolescents including psychological and pharmacological interventions has been associated with lasting benefits, including reduced suicide ideation in adulthood. Most commonly used medications by mental health providers are selective serotonin reuptake inhibitors (SSRIs) and benzodiazepines. In our experience, the use of safe and effective medication that does not have an addictive potential is extremely important. We have used Propranolol, a beta blocker, consistently over the last 25 years with over 80% positive effect (Omar). Propranolol is a safe and effective treatment for anxiety and should be considered as a first option when treating anxiety in teenagers (Ciarrochi et al. 2012). There is no association with abuse, addictive properties, or major side effects. Steenan et al (2016) reported that propranolol was as effective as benzodiazepines without the side effects and dependency often associated with the latter.

Teenagers are at higher risk for addictive behavior due to their rapidly developing brains and it is our responsibility to provide effective and healthy treatments for our adolescent population. Drug use among 8th graders has increased by 61% between 2016 and 2020 (NCDAS 2020). By the 12th grade, 62% of teenagers admitted to having abused alcohol and 50% of teenagers have misused a drug at least once (NCDAS 2020). Interestingly, a large proportion (86%) of teenagers knew someone who smokes, drinks, or uses drugs during the day (NCDAS 2020). The brain undergoes rapid development during the teen years, in particular the limbic system which is involved in risk taking. Also, the prefrontal cortex is immature and does not develop until late adolescence/early adulthood. This area controls reasoning and impulse control.

In the early to middle adolescence, thoughts and decision making are primarily controlled by emotions (Neinstein et al 2016). When using medications that affect these centers, the risk of dependency increases as development is impaired. Adolescents are highly susceptible to the dependency and addictive effects of drugs. Environmental factors such as parental

overprotectiveness and intrusiveness can lead to significant separation anxiety as well as Generalized Anxiety Disorder (GAD), (Neinstein et al 2016). There is also evidence that anxiety has a hereditary pattern. It is considered a disorder when it interferes with day to day functioning and treatment aims to alleviate the anxiety. Currently, there are several FDA approved treatment medications for anxiety. First choice in many pediatrician clinics includes SSRI's such as Prozac, and benzodiazepines such as Xanax. There has been increasing evidence in support of Propranolol, which is classified as a beta blocker. The benefits of using Propranolol over benzodiazepines are the reduced risk for abuse and addiction potential (Brown 2018).

Propranolol works by blocking the adrenals from affecting the heart (Casabianca et al 2021). This helps to treat the physical symptoms associated with anxiety such as tachycardia, sweating, nervousness, and shakiness (Brown, 2018). When used as an anxiolytic at low doses of 10 mg, it is also beneficial for social and performance anxiety and is a safe alternative to benzodiazepines. There is no cross over through the blood brain barrier and no addictive qualities. Side effects are generally mild and can include slowed heart rate, nausea, fatigue, dizziness but these are associated with higher doses. Caution should be exercised when used with asthmatics and diabetics as this can also cause a cough response and may block the awareness of low blood sugars which share similar symptoms as anxiety.

Benzodiazepines in contrast, have an effect on the brain. By working through GABA receptors they slow down the central nervous system and give the person a feeling of relaxation (Ankrom 2021). This can cause drowsiness, which can ultimately affect your ability to drive safely and make decisions. They are not currently recommended to be used to treat anxiety in children and teens (Ankrom 2021). This class of medications carries an FDA black box warning that reports serious risks of abuse, addiction, dependency, and withdrawal. There have been numerous patient reports of needing hospitalization in a detox unit to wean off benzodiazepines (drugs.com 2020). In a meta-analysis by Steenan et al (2016), it was found that there are no major differences in the effects of Propranolol when compared to benzodiazepines for the treatment of anxiety, yet the authors concluded that the finding indicates there is no reason to prefer propranolol which in our opinion is the wrong conclusion. Lener et al (2012) agree that short term use of Propranolol has similar effects as benzodiazepines without major side effects. Additionally, propranolol can be effective for anticipatory or performance anxiety without the drowsiness effect. As previously mentioned, Propranolol should be considered first line over any benzodiazepine as it is without major side effects (addiction, withdrawal, abuse, etc). Cunha (2019) compares the use of Propranolol vs Xanax and notes the risks of addiction with the use of Xanax.

We performed a brief review of patients that had been prescribed Propranolol for anxiety in the last 8 months. Of 275 patients who were prescribed Propranolol, of those that have returned for a follow up the majority are reporting improvement for their anxiety. Roughly 8/10 patients reported the reduction of physical symptoms and the ability to return to normal activities of daily living. Of the 2 that did not see any improvement, there was a significant association with severe depression. 1 out of this group of 10 was able to stop all medications after 3 months and has been doing well since. In the last 25 years we have seen a positive response to Propranolol treatment in more than 80% of the 2400 adolescents we treated in this manner.

Conclusion

Adolescent anxiety is a very common problem that has also increased in prevalence since the start of the COVID-19 pandemic. While Propranolol in our experience is very effective in treating the physical symptoms, it does end up also helping with the emotional symptoms which suggest that physical and emotional may be closely connected. We recommend that use of medications with addictive potential and sedative effect should be a last resort and the use of a safe and effective medicine such as Propranolol, should be a first choice.

References

- Ankrom, S., Block, D., (2021). Benzodiazepines for the treatment of anxiety. Very Well Mind. Retrieved from: <https://www.verywellmind.com/benzodiazepines-for-the-treatment-of-anxiety-2584334>
- Brown, M. (2018). Can Beta-Blockers Help Your Anxiety? Healthline.com. Retrieved from: <https://www.healthline.com/health/beta-blockers-for-anxiety>
- Ciarrochi, J., Hayes, L., Bailey, A., & Hayes, S. C. (2012). Get out of your mind & into your life for teens: A guide to living an extraordinary life. Oakland, CA: Instant Help books.
- Drugs.com (2020). User Reviews for Propranolol to Treat Anxiety. Retrieved from: <https://www.drugs.com/comments/propranolol/for-anxiety.html>
- Hancock, K. M., Swain, J., Hainsworth, C. J., Dixon, A. L., Koo, S., & Munro, K. (2018). Acceptance and commitment therapy versus cognitive behavior therapy for children with anxiety: Outcomes of a randomized controlled trial. *Journal of Clinical Child and Adolescent Psychology*, 47(2), 296-311. doi:10.1080/15374416.2015.1110822.
- Hayes, L. L., & Ciarrochi, J. (2015). *The thriving adolescent: Using acceptance and commitment therapy and positive psychology to help teens manage emotions, achieve goals, and build connection*. Oakland, CA: Context Press, an imprint of New Harbinger Publications.
- Hayes, S., Strosahl, K., & Wilson, K. (2012). *Acceptance and commitment therapy: The process and* Kendall, P. C., & Peterman, J. S. (2015). CBT for adolescents with anxiety: Mature yet still developing. *The American Journal of Psychiatry*, 172(6), 519-530. doi:10.1176/appi.ajp.2015.14081061.
- Lener MS, Casabianca SS, Gonzalez-Pons K (2021). Is Propranolol Effective For Anxiety Symptoms? Psych Central. Retrieved from: <https://drugabusestatistics.org/teen-drug-use/>
- Luoma, J. B., Hayes, S. C., & Walser, R. D. (2017). *Learning ACT: An acceptance and commitment therapy skills training manual for therapists, second edition*. Oakland, CA: Context Press, an imprint of New Harbinger Publications.
- NCDAS National Center for Drug Abuse Statistics. Drug Use Among Youth: Facts and Statistics.2020. Retrieved from: <https://drugabusestatistics.org/teen-drug-use/>
- NHS. Propranolol: medicine for migraine, anxiety, and heart and blood pressure issues. Retrieved from: <https://www.nhs.uk/medicines/propranolol/>
- Neinstein LS, Katzman DK, Callahan ST, Gordon CM, Joffe A, and Rickett VI (2016). *Adolescent and Young Adult Health Care, A Practical Guide*. Wolters Kluwer, Philadelphia, PA.
- Oar, E. L., Johnco, C., & Ollendick, T. H. (2017). Cognitive behavioral therapy for anxiety and depression in children and adolescents. *Psychiatric Clinics of North America*, 40(4), 661-674. doi:10.1016/j.psc.2017.08.002.
- Omar, Hatim. Mental and Physical aspects of Anxiety in Adolescents, Lehigh Valley Health Network, unpublished observations.

- Robinson, P. J., Gould, D. A., & Strosahl, K. (2011). *Real behavior change in primary care: Improving patient outcomes and increasing job satisfaction*. Oakland, CA: New Harbinger.
- Steenan SA, Wijk A, Heijden G, Westrhenen R, Lande J, Jongh A (2016). Propranolol for the treatment of anxiety disorders: Systematic review and meta-analysis. *Journal of Psychopharmacology* 30 (2); 128-139.
- Strosahl, K., Gustavsson, T., & Robinson, P. A. (2012). *Brief interventions for radical change: Principles and practice of focused acceptance and commitment therapy*. Oakland, CA: New Harbinger Publications.
- Turrell, S. L., & Bell, M. (2016). *ACT for adolescents: Treating teens and adolescents in individual and group therapy*. Oakland, CA: Context Press, an imprint of New Harbinger Publications.
- Wolk CB, Kendall PC, Beidas RS. Cognitive-behavioral therapy for child anxiety confers long-term protection from suicidality. *J Am Acad Child Adolesc Psychiatry* 2015;54:175–9.