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CLINICAL PSYCHOLOGY & NEUROPSYCHOLOGY | NEW PERSPECTIVE

Transcendental meditation for autism spectrum disorders? A perspective

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Abstract: Anecdotal reports suggest that Transcendental Meditation (TM) may be helpful for some children and young adults with autism spectrum disorders (ASDs). In this perspective piece, we present six carefully evaluated individuals with diagnosed ASDs, who appear to have benefitted from TM, and offer some thoughts as to how this technique might help such individuals.

Subjects: Anxiety in Children & Adolescents; Autism; Behavioral Psychology; Child & Adolescent Psychiatry & Clinical Psychology; Developmental Psychology; General Psychology; Stress in Children & Adolescents

Keywords: autism; autism spectrum disorders; stress; anxiety; meditation

1. Introduction

Autism spectrum disorders (ASDs) are characterized by deficits in social interaction and communication, and the presence of restricted and repetitive behaviors (American Psychiatric Association, [APA], 2013). While the prevalence of ASDs is growing rapidly, affecting approximately 1 in 88 American children according to the United States Center for Disease Control (Baio, 2012), treatment options for ASDs are sorely lacking (Farmer, Thurm, & Grant, 2013; Rogers & Vismara, 2008).

Many individuals with ASDs suffer from numerous comorbid conditions including anxiety, sleep disturbances, poor self-regulation, and sensory sensitivities, all of which significantly impact functioning and quality of life. Many individuals with ASDs are chronically stressed by the social environmental demands of day-to-day functioning (e.g. interacting with teachers, peers, co-workers,

ABOUT THE AUTHOR

Dr David O. Black is a pediatric neuropsychologist, director of the Center for Assessment and Treatment in Bethesda, MD, and clinical psychologist with the National Institute of Mental Health. His research and clinical work have focused on achieving best outcomes for individuals with autism spectrum and related disorders. Dr. Black's recent work has focused on improving long-term outcomes through developing social abilities and optimally managing stress and anxiety. This retrospective case series of six people with autism spectrum disorder explores the use of transcendental meditation as a potential avenue for managing the stress and anxiety that affects an estimated 40% of those with autism spectrum disorders.

PUBLIC INTEREST STATEMENT

The rates of autism are rapidly rising, and the Centers for Disease Control (CDC) estimate that it affects 1 in 68 children (Baio, 2012). Many of these individuals (up to 40%) are further afflicted by anxiety (White, Oswald, Ollendick, & Scahill, 2009). Unfortunately, effective treatments are lacking and treatment programs usually involve multiple modalities, none of which is fully effective in itself. Anecdotal instances of individuals with ASDs who have benefitted from Transcendental Meditation have come to our attention (Kurtz, 2011; Rosenthal, 2012). In this perspective piece, we describe the experiences of six individuals with autism spectrum disorders who consistently meditated for at least three months, and describe how they apparently benefitted from the technique. TM is known to reduce anxiety (e.g. Orme-Johnson & Barnes, 2014), which may be one way whereby it helps individuals with ASDs.

employers, general public; coping with environmental stimuli such as bright lights, sounds, smells) (Corbett, Schupp, Levine, & Mendoza, 2009). The cumulative toll of this stress on physical health and well-being, day-to-day functioning, and overall quality of life, is significant for individuals with ASDs and their family members.

Anxiety can be debilitating, making it even more difficult for people with ASDs to socialize and navigate the routines of daily life. One recent review suggested that on average, 40% of those with ASDs suffer significant anxiety symptoms (White et al., 2009). Other research has shown that chronic stress has a significant impact on multiple aspects of psychological and physical health (Baron, Groden, Goden, & Lipsitt, 2006).

There are no interventions with demonstrated efficacy for the reduction of anxiety among individuals with ASDs (Farmer et al., 2013). Transcendental Meditation (TM) may be beneficial for treating anxiety in individuals with ASDs by reducing stress (Rosenthal, 2012). Indeed, a recent review article by Sequeira and Ahmed (2012) suggested that meditation may be an effective intervention for autism due to its documented capacity to improve self-control and self-regulation, reduce anxiety, and improve behavioral and cognitive functioning. TM is a mantra-based meditation technique that is taught on an individual basis by experienced teachers. TM does not emphasize the need to concentrate and control the mind, and the practitioner maintains alertness during meditation. For these reasons, it may be relatively simple to teach TM to individuals with ASDs.

Prior research in non-ASD populations has demonstrated TM to be effective in reducing stress (Adamander et al., 1996; Travis et al., 2009), and helping to treat stress-related conditions such as cardiovascular disease (Castillo-Richmond et al., 2000; Schneider et al., 2009), substance abuse (Adamander, Robinson, & Rainforth, 1994), high blood pressure (Barnes, Trieber, & Johnson, 2004), and post-traumatic stress disorder (Brooks & Scarano, 1986; Rosenthal, Grosswald, Ross, & Rosenthal, 2011). Two meta-analyses found that TM is effective in reducing trait anxiety (Eppley, Abrams, & Shear, 1989; Orme-Johnson & Barnes, 2014). One open label study of 10 adolescents suggested that the practice of TM was associated with improved self-control and emotion regulation (Rosaen & Benn, 2006).

The use of TM in ASDs has not been examined in the scientific literature. There is one case report of an adolescent with an ASD describing improved emotion regulation, self-regulation, and sleep following the practice of TM (Kurtz, 2011). More research is needed, however, to determine whether the practice of TM is feasible and beneficial for individuals with ASDs.

Given the lack of research in this area, as an initial step, we systematically interviewed six adolescents and young adults with ASDs regarding their experiences with TM, including whether they can regularly practice TM and whether twice-daily practice of TM can improve their overall functioning.

2. Methods

2.1. Participants

Six individuals between 10 and 30 years old, diagnosed with an ASD according to the *Diagnostic and Statistical Manual of Mental Disorder*, Fourth Edition, Text Revision (DSM-IV-TR; APA, 2000) and who had practiced TM twice per day for 15–20 min, at least 10 times per week, for at least 3 months were interviewed. The first author (David O. Black), who has extensive expertise in the assessment and diagnosis of ASDs, confirmed each participant's diagnosis through review of medical history and a diagnostic evaluation. Participants were located by communication through the TM community.

2.2. Procedures

This study was approved by a human subjects institutional review board (Quorum IRB), and written informed consent or assent was obtained from each participant. For minors, written informed consent was obtained from their parents. A retrospective, naturalistic case history of each participant

was obtained. A semi-structured clinical interview was completed with each participant that included an assessment of level of functioning in the six months prior to the onset of TM practice and during the month prior to being interviewed. The clinical interview began by asking open-ended questions about: (1) learning and practicing TM and (2) any changes in functioning observed since following consistent practice of TM. Following the open-ended questions, participants and their parents were asked a series of focused questions about changes in anxiety, stress, day-to-day functioning, and autism symptoms.

3. Results

Table 1 provides a summary of the six adolescents and young adults interviewed, including the benefits they reported from TM. A number of consistent patterns emerged from this case series. First, all participants reported no difficulty learning to meditate, and five of six participants consistently meditated twice daily. The sixth participant, Jason, was living away from home at college and reported meditating 8–10 times per week. The remaining five participants lived at home with their parents and had at least one family member who also meditated consistently. Most individuals reported that the changes they experienced from TM were gradual and accumulated over time, i.e. the longer they meditated, the more benefit they experienced.

As shown in Table 1, all participants reported that the consistent practice of TM was helpful in a number of ways. In general, they said TM reduced stress and anxiety, and improved emotion and behavior regulation, productivity, the ability to tolerate and cope in novel settings and social environments, and the capacity to transition and manage unexpected changes in routine. Parents in particular noted that with the consistent practice of TM, their children were able to take on more tasks, needed less time to recover following a stressful situation (such as a highly social or novel setting), and generally seemed more at-ease. Other reported benefits include: increased concentration, reduced test anxiety, improved sleep patterns, reduced tantrums, and reduced physiological symptoms of stress.

Table 1. Reported benefits of transcendental meditation from six participants with an autism spectrum disorder

Participant	Gender	Age	Duration of meditation	Reported benefits of TM
Alice	F	22	7 years	Improved sleep, more tolerant of changes in routine and unexpected life events, lower stress, more willing to engage in social interaction, improved sustained attention
Jason	M	18	18 months	Improved sleep, more tolerance of social interaction, lower anxiety, lower emotional volatility, better capacity to handle stress of heavy academic course load
James	M	24	18 months	Much lower stress and anxiety, resolution of panic symptoms, improved coping with novel social situations, more tolerant of changes in routine, more engaged in social situations
Aaron	M	17	7 months	Reduced anxiety and stress, less repetitive pacing, resolution of stress-associated chronic back pain, better coping with stressful situations (e.g. exams), improved concentration
Adam	M	16	3 years	Reduced stress and anxiety, more willing to try new things, less frustration and fewer tantrums, improved concentration, no longer chews his finger nails, improved emotion regulation, improved sleep, less stereotyped (scripted) speech
Jared	M	16	4 months	Panic attacks reduced from daily to less than once per week, completed school work more easily, less distracted

4. Summary

Individuals with ASDs routinely suffer from chronic stress and anxiety. The symptoms of ASDs, including difficulty with social interaction, sensory processing, and inflexibility, contribute to the onset and maintenance of chronic stress. Indeed, about 40% of children with an ASD suffer from symptoms of anxiety (White et al., 2009). Chronic stress takes an enormous toll on physical health and psychological well-being, resulting in marked reductions in quality of life, lost productivity, and increased financial burden to families and society. Treatments to address anxiety and stress in ASDs are sorely lacking, and pharmacological interventions are often associated with significant side effects.

There is a growing body of research illustrating the stress-reducing effects of meditation in many patient groups, such as those with heart disease, diabetes, and PTSD. In addition, there are a few studies suggesting that TM may be a useful intervention to reduce stress and improve productivity and quality of life for adolescents and young adults (Grosswald, Stixrud, Travis, & Bateh, 2008; Rosaen & Benn, 2006). The aims of this case series were to examine the experiences of individuals with ASDs who learned TM. The experiences of this group of individuals suggest that at least for some individuals with an ASD, (1) TM is easy to learn and consistently practice, and (2) that it may be very beneficial in reducing stress and anxiety, thereby improving overall productivity and quality of life. Given that the technique is readily available, relatively inexpensive, and carries no side effects, consideration of it as potential intervention for individuals with ASDs is warranted.

5. Limitations and conclusion

In this perspective, we report on the experiences of six people with ASD who practiced TM for between four months and seven years. This is the first publication of a case series of this kind, and as such, there are limitations to the conclusions we can confidently draw. Limitations include: (1) small sample size; (2) no control group; (3) un-blinded design; (4) retrospective data collection; and (5) self-report and parent report data. All of these limitations can lead to errors in interpretation. As is true for any case series, a causal link between the consistent practice of meditation and improvements in functioning cannot be drawn. Nevertheless, persuasive improvements were observed in all six patients studied here (and no patients were excluded on the basis of less prominent responses or difficulty learning to meditate.) Since few effective treatments are available for ASD, all potentially promising avenues should be explored. With this in mind, we recommend future studies that address the limitations mentioned above.

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Competing interests

The authors declare no competing interests.

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