

Classroom Therapy Balls for Children with ADHD Have Positive Effect

Exercise ball chairs have been used by people with poor posture or back problems for several years. They are ergonomic types of 'chairs' used by people for sensory seating and they have a positive impact on people for various reasons. Some people refer to them as 'balance balls'.

Some of the more common uses of exercise ball chairs for adults include:

1. Adults with posture, circulation, or back problems.
2. People with poor muscle tone.
3. Individuals who require dynamic seating.

Thanks to research and findings related to the efficacy of exercise ball chairs, they are also becoming even more popular as a treatment modality for children with ADD/ADHD and other types of sensory integration challenges. Some teachers and therapists have used therapy balls to help children with ADHD focus for years, but for many, it's a new approach to managing sensory integration.

ADHD treatment options

Attention deficit hyperactive disorder (ADHD) is a very frequent diagnosis for children. It is a neurobehavioral disorder that often results in significant academic and sensory motor problems. This makes school activities and social activities difficult for these children.

One of the biggest issues faced by children with ADHD is their inability to sit still and pay attention in the classroom. They often fail to complete their work as assigned and do not perform as well academically as children without ADHD. Their lack of focus deters them from performing well academically.

S. Mulligan presented the idea that one effective intervention approach might be to adapt the classroom environment to meet the children's needs.¹ One possible strategy for adapting the classroom was the use of therapy balls which have now proven to improve attention, sustained sitting, and academic performance of children. Although no specific studies had been conducted at the time of Mulligan's recommendations, therapy balls were considered an optional treatment modality for children with ADHD.

Subsequently, the study was created to examine the use and effectiveness of therapy balls in the classroom. Researchers sought to answer two primary questions: (1) What effect does using

¹ Mulligan, S. (2001). Classroom strategies used by teachers of students with attention deficit hyperactivity disorder. *Physical & Occupational Therapy in Pediatrics*, 20, 25-44.

therapy balls as chairs have on in-seat behavior, and (2) What effect does sitting on balls have on legible word productivity?

Teachers in the classroom, students, and researchers could also evaluate social validity of the intervention.

Study background

Denise Schilling, Kathleen Washington, Felix F. Billingsley, and Jean Deitz conducted the study to investigate the effects of therapy balls on in-seat behavior and legible word productivity of students with attention deficit hyperactivity disorder (ADHD) at the fourth grade level.² The study also encompassed an evaluation by the teacher of students participating in the study to ascertain her opinions on the social validity and effectiveness of the ball chair as an intervention.

Study background and results were originally published in the American Journal of Occupational Therapy.² There were four (4) phases to this 12-week study which included:

1. *Phases 1 and 3*: Three (3) students who were considered study participants and who were diagnosed with ADHD, and all other 21 members of the classroom, sat on chairs (in-seat on chair) during language arts class.
2. *Phases 2 and 4*: Everyone sat on therapy balls (in-seat on ball).

Researchers graphed data and visually observed to analyze any differences between phases.

There were 24 students in the classroom and three of them were diagnosed with ADHD. They were very similar in age and all had average or above average intelligence according to test results. All three study participants were also on similar types of medications for their disorder. Before the study began, the three ADHD students continually experienced out-of-seat behaviors and required significant direction from the teacher.

Study results

As a result of the research, study results revealed compelling evidence of therapy ball effectiveness. Some of the study results included:

- ✓ Improvements in sitting behavior for all participants when using therapy balls for seating.
- ✓ When seated on therapy balls, a male participant who previously had problems sleeping in class and being out-of-seat frequently no longer fell asleep in class and stayed seated.

² Schilling, O. L., Washington, K., Billingsley, F.F., & Deitz, J. (2003). Classroom seating for children with attention deficit hyperactivity disorder: Therapy balls versus chairs. *American Journal of Occupational Therapy*, 57, 534-541.

- ✓ During therapy ball sessions, one female participant remained in her seat and appeared quite calm and steady which was in contrast to behavior before the therapy balls.
- ✓ The 3rd participant also demonstrated similar improvements by staying in-seat when using therapy balls which was significant improvement over his pre-therapy ball behavior.
- ✓ All three study participants demonstrated improved legible word productivity when seated on therapy balls.
- ✓ All three participants reported that they preferred balls to chairs for comfort, writing, and productivity.
- ✓ The 21 other students *without* an ADHD diagnosis also reported that they believed the therapy balls were more comfortable and improved their writing ability. They felt they were able to listen better and finish their work easier. Seventeen (17) preferred balls, two preferred chairs, and two had no preference.
- ✓ One male study participant reported that therapy balls had a *downside* because they made it harder for him to sleep in class, confirming their effectiveness.
- ✓ Thirteen (13) students said they felt their posture and back comfort improved.
- ✓ The teacher found that the use of therapy balls helped students focus, decreased noise levels, kept all students calmer, and increased work productivity. She decided to continue use of therapy balls for seating for children with ADHD after the study was completed. This further supports social validity of the intervention.

Conclusions

Based on this small study and the results, it is evident that the use of therapy balls for students with ADHD is an effective option to classroom seating. The social validity was also positive based on comments from students and the teacher. Therapists and teachers observed significant improvement in movement patterns among students when seated on the balls. It is perceived that bouncing, gently rocking, and other movements could be self-modulation of personal sensory needs by students to help them maintain an optimal state of awareness and increased focus.

Students with ADHD who use therapy balls to minimize their out-of-seat time also are safer because they are no longer tilting chairs backwards, balancing on the back of the headrest, and assuming uncomfortable or harmful postures due to their inability to focus and pay attention.

Therapy balls are an effective method when collaboration with teachers is undertaken. Teachers using effective strategies to improve behavior and self-modulation will be most effective when using these additional resources. It is important that the teacher understand

how therapy balls work and that she/he collaborates with multiple methods of support for children with ADHD.

This study was short in duration and only included one classroom study sample. However, it was enough evidence to support the fact that therapy balls can improve behavior and help ADHD children focus better. It also resulted in improved handwriting legibility and improved class work according to the teacher's feedback.

Recommendations

Classroom environments should be adapted for children with ADHD and related diagnoses. The use of therapy balls can have a very positive effect on student learning and their ability to focus. They will help children reach their full potential every day by providing them with the support resources needed to perform well in the learning environment.

The use of therapy balls is definitely an option for classroom seating that can positively impact performance and productivity. It is an important part of an interdisciplinary approach to support children with ADHD and should be considered as a part of an overall treatment modality and comprehensive sensory diet.

As more and more teachers, parents, and therapists grasp the significance of therapy balls for classroom seating options, it is likely to prove a very effective strategy for multiple types of sensory integration challenges. Therapy balls should not be simply limited to the classroom but should be utilized in any situation where children are expected to sit, listen, focus, and learn.