Effects of Classroom Based Yoga on Gross Motor Skills and Self-Regulation in Preschool Aged Children With Developmental Delays

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PURPOSE

The purpose of this research is to determine the effect of classroom based yoga on gross motor skills and self-regulation in preschool aged children with developmental disorders. Examination of alternative interventions, such as yoga, is necessary as approximately 12% of children used complementary or alternative medicine in 2007 and rates double (24%) for children with six or greater health conditions.7,8

MATERIALS AND METHODS

Children and Developmental Disabilities

Mental, behavioral, or developmental disabilities are diagnosed in 15.4% of children ages 2-8 years and prevalence is expected to increase over the next several years.7,8 Children with developmental disabilities experience challenges and limitations across several domains, which impact their ability to fully participate in their daily activities across environments. Children with developmental disabilities often require many different types of therapy to address various needs throughout their lives. As a result, families will often seek alternative therapies to complement the traditional therapies that are typically received. Yoga is a popular complementary form of exercise that is easily accessible and a viable option for children. Although yoga has proposed benefits in pediatric populations, current evidence is lacking for children with developmental disabilities.


Directing KT, Buckley-Reen A, Garg S., et al. (2011). The effects of Classroom Based Yoga on Gross Motor Skills and Self-Regulation in Preschool Aged Children with Autism Spectrum Disorder (ASD). 121 subjects (71 female, 50 male) aged 4-5.5 years with a mean age of 5.1 years. 74 subjects in the treatment group (43 female, 30 male) with a mean age of 5.1 years. 47 subjects in the control group (21 female, 24 male) with a mean age of 5.1 years.


18 16 14 12 10 8 6 4 2 0 Balance (B5) Agility (RSA2) Stress (SSS) Pre-Test Post-Test

Controls

Figure 2: Statistically significant changes in the balance subset for tasks B5, B6, the agility subset for task RSA2, the stress subset SSS, and flexibility.4

B7: yoga had the largest effect on balance, and it was statistically significant compared to controls. The effects of yoga on balance and flexibility may underlie how yoga improves overall motor ability. The gains in balance and flexibility that participants demonstrated in this study are consistent with those reported by others.5,7,12,15,16

In this study, we have shown that yoga can be an effective intervention for children with developmental delays. However, further research is needed to fully examine the impact of yoga in this population.

CONCLUSIONS

Although research is limited in this area, evidence suggests that yoga is an effective complementary treatment to traditional physical therapy for children with developmental delays, to improve behavioral regulation and gross motor skills. Yoga uses psychological and physiological processes that are aimed at improving physiologic aspects through breathing techniques, postures, relaxation, and meditation, as well as poses that improve balance and coordination. Children under the influence of yoga practice to improve behavioral regulation and gross motor skills, however future research is needed to fully examine the impact of yoga for this population.

Figure 1: Relative changes in anger control. Mean scores are plotted for treatment (red bar) and control (green bar) groups at baseline and at the end of the program for the Anger Control subscale of the BAC-2 (p=0.03).

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BIBLIOGRAPHY