Examining the effects of a community based, parent led physical activity programme on the fundamental movement skills of children with autism.

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Abstract

Children with autism typically present with delay in movement ability particularly ball skills, manual dexterity, coordination and balance (Reid & O'Connor, 2003; Todd & Reid, 2006, Crawford, MacDonncha & Smyth, 2007). Participation in physical activity programmes has been found to positively affect these issues while further enhancing social responsiveness of the children (Crawford et al, 2007). Research of Kozub (2005), Keenan et al (2006) have emphasised the importance of parental involvement in programmes for children with autism to ensure ongoing intervention is maintained and benefits accrued are sustained. This study soughts to examine the effects of a community based, parent led physical activity programme on the fundamental movement skills of children with autism. The fundamental movement skills of participating children (n=14) were assessed using the Movement ABC Checklist (Henderson & Sugden, 1992) prior to embarking on the physical activity programme of 120 min duration, run once weekly for a 12 week period. Data was inputted into SPSS Version 18. Paired t tests indicated there was a statistically significant decrease in MABC total scores from pre test (M = 56.90, SD = 20.09) to post test (M = 51.36, SD = 19.70), t (10) = 2.86, p< .017 (two tailed). A statistically significant decrease occurred in section 3 where the child was stationary and the environment changing. The scores ranged from Pre test scores (M = 14.45, SD 6.42) to post test (M = 11.81, 6.32), t (10) = 3.74, p< .004 (two tailed). In section 5 which examines behaviour change a further statistically significant decrease occurred from pre test (M = 13.36, SD 6.05) to post test M = 10.45, SD = 4.82), t (10) = 3.97, p<.003 (two tailed). These changes are indicative of a positive intervention effect. This research will inform provision and practice of parent led community based programmes for children with autism, for parents and physical activity facilitators in schools and community.

Introduction

Parent education as an intervention serves to inform parents, teach them new skills, and supplement child interventions (Brookman-Frazee, Stahmer, Baker Ericzen, & Tsai, 2006), all of which researchers suggest improve child outcomes (Simpson, 2001). One of the most common areas of parent education is for parents of children with disruptive behaviours (Brookman-Frazee et al., 2006). This type of parent education program often focuses on changing general parent behaviour to alter the interactions between parents and their children. Children diagnosed with an autistic spectrum disorder (ASD), have specific Fundamental movement skill (FMS) deficits and difficulty with learning, making targeted parent education particularly acute for this group of parents (National Research Council, 2001). Parent education can increase parents' knowledge and skills in the areas of managing behaviour (Cordisco, Strain, & Depew, 1988), teaching their children communication skills (Charlop-Christy & Carpenter, 2000), teaching their children social skills (Solomon, Necheles, Ferch, & Bruckman, 2007) and addressing FMS deficits (Reid & O'Connor, 2003). In addition, parent education has two other potential benefits: reducing parent stress and increasing parenting sense of competence.

The purpose of this study was to assess the effects of a community based, parent led physical activity programme on the fundamental movement skills of children with autism.

Methodology

Ethical Approval

Ethical Approval was sought and granted from Social Research Ethics committee (SREC), University College Cork.

Participants

Participant parents (n=28) and children (where feasible)(n=12) were formally informed of the purpose and methodology of the study as well as the nature and extent of their participation. Participation was voluntary. Inclusion criteria were that of being diagnosed with autism.

Procedures

Quantitative data was generated using Movement ABC assessment (Henderson & Sugden, 1992). Qualitative data was generated using individual case studies (Stake 2010). The programmes were once twice weekly for 12 weeks duration with each session lasting 120 min.

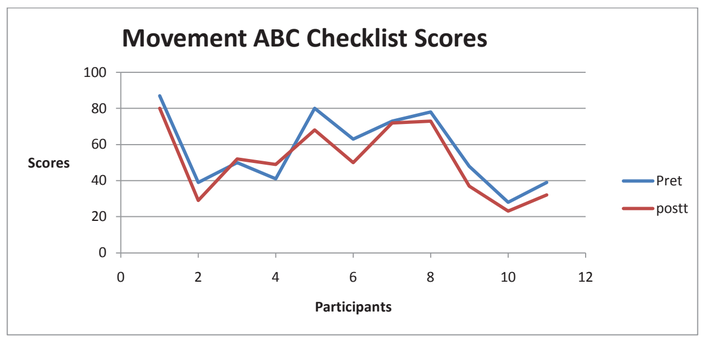
Sources of Data

Data was generated from pre and post assessment of participants using Movement ABC Checklist. Further qualitative data was generated using parental interviews at pretest, at 6 weeks and post test at 12 weeks.

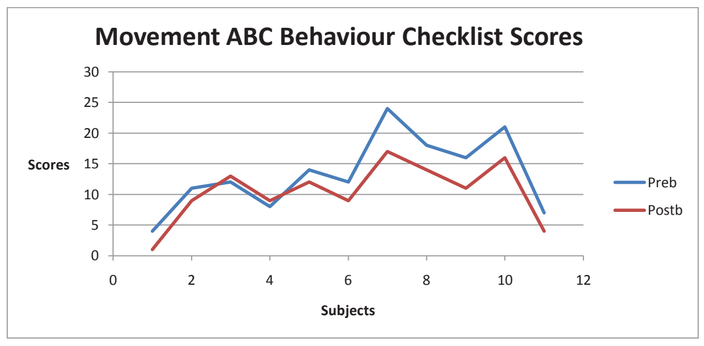
Data Analysis

Quantitative Data was inputted and analysed using SPSS Version 18. Qualitative data from individual interviews was analysed. Key themes were then examined in great detail and comparing and contrasting evidence was discussed.

Results



Graph 1: Movement ABC Checklist Scores pre and post intervention



Graph 2: Movement ABC Behaviour Checklist Scores pre and post intervention

Key themes emerging from Parent Interviews

- Parental belief in the benefits of FMS programmes from both skill development, health accrued benefits, enhanced social responsiveness and reduced stereotypical behaviours
- Overall desire to be included and actively involved in their children's development and progress.
- Lack of facilities, training and support for parents to encourage meaningful participation
- Lack of established physical activity/sports programmes for teenagers with autism.
- Enhanced feelings of positivity toward their children.

Discussion

When parents are given the opportunity to learn and implement skills that will improve their child's functioning, increased positive affect (Koegel et al., 1996; Solomon et al., 2008), reduced stress (Symon, 2001) and improved self-efficacy (Feldman & Werner, 2002) have been found in this study.

When parents are considered partners or collaborators with practitioners in parent education programs where they help develop goals and programmes along with the facilitators, results revealed lower parental stress, higher levels of confidence, and more positive parent-child interactions (Brookman-Frazee, 2004) which was considered a factor by parents.

Parental knowledge about the child's needs, preferences, and history will better guide the approach or any accommodations that may need to be made. Parents saw this as an issue in this study.

Families are important participants in the development and implementation of programmes because they are the most stable and knowledgeable people in the child's life (Lucyshyn, Horner, Dunlap, Albin, & Ben, 2002). (cont...)

When parents are collaborators in treatment, they can learn to use techniques such as differential reinforcement of alternative behaviours (DRA; Neidert, Iwata, & Dozier, 2005) at home to help their child appropriately express their needs and prevent the occurrence of behaviour problems. In this instance parents were confident to work on FMS with their children, reduced fears to increase intensity of activity with appropriate training. Parents and other family members can be taught how to incorporate many different treatment techniques and skills into everyday life in this instance FMS (Lucyshyn et al., 2002).

Treating children on the autism spectrum involves more than individual therapy and should include the family and any others who spend time with the child. By including families in treatment, the child's prognosis improves as does other factors that are critical to providing a successful treatment (Simpson, 1999).

Addressing issues of FMS with children with ASD increases the opportunity to participate in quality physical activity programmes and further develop sport specific skills (Crawford, MacDonncha & Smyth, 2007: Reid & O'Connor, 2003).

Conclusions

Parents should be actively encouraged and engaged in programmes developing FMS for children with ASD.

Regardless of the way or method used to involve parents in their child's programme, it is known that parental involvement is critical to a positive treatment outcome. More research is needed to determine the most effective way that parents are included in programmes. Parental involvement allows children to receive intervention outside the clinic or home settings in which the therapists is not present. This has been shown to be a critical component in treatment of ASD.

Not only does parental involvement demonstrate improvement in child symptoms, but there are many benefits for the parents as well (McConachie & Diggle, 2007; Symon, 2001).

Teaching parents effective skills to use with their child helps them better manage difficult behaviours feel more control over their child's symptoms and their daily lives, and decreases stress levels.

Although research supports the inclusion of parents in treatment, there are still many that do not include them. It may be that clinicians and practitioners do not know how to appropriately involve parents. Hence appropriate professional training is essential.

References

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