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EFFECT OF INTEROCEPTION ACTIVITIES TO IMPROVE ACADEMIC PERFORMANCE AMONG CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER

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ABSTRACT

The main aim and objective of the study were to assess the academic performance among children with attention deficit hyperactivity disorder and effectiveness of interoception activities to improve academic performance. This was a quasi-experimental design with convenience sampling and sample selected (n=30), which were split into two groups, an experimental group(n=15) and a control group(n=15), based on inclusion and exclusion criteria The duration of the study was three month, three session per week, lasting for 45 minutes. The experimental group received intervention based on interoception activities, while the control group received conventional occupational therapy. The study assessed 30 children in the range of 6-8years, using an academic performance rating scale (APRS)the pre and post-test were evaluated by academic performance rating scale. And the outcome of the pre and post-test between control and experimental group

were analysed. The result of the study indicate that interoception activities impact to improve academic performance in children with attention deficit hyperactivity disorder (p value $0.038 < 0.05$). This suggest a statistically significant difference between the experimental and control group. From the results of the study it was concluded that interoception activities was effective in improving in academic performance among children with attention deficit hyperactivity disorder.

Keywords: Interoception activities, Attention deficit hyperactivity disorder, Academic performance

INTRODUCTION

Occupational therapy intervention for children promotes participation and participation in children's daily activities Children's activities include, developing independence, productivity and participation in sports or leisure activities. Inability to participate due of illness, disability or lack of skill, can lead to social isolation and low self-esteem Occupational therapists choose activities for children based on an analysis of how the child performs in daily activities, how the children functions under the influence of the disability, and how the environment support or limit their actions (Mandich & Rodger, 2001) [1].

According to the DSM-5, people with ADHD show signs and symptoms of inattention and/or hyperactivity-impulsivity that make it difficult to function in everyday life. To be diagnosed with ADHD, children at the age of 16 often have to have six or more symptoms of inattention and/or hyperactivity and impulsivity. Teenagers 17 a long time and more seasoned and grown-ups must have five or more indications of carelessness and/or

Impulsivity The definition of ADHD remains the same in DSM-5-TR compared to DSM-5. More specifically, it says that "ADHD is disorganization and/or hyperactivity-impulsivity." Inattention and disorganization result in the inability to stay on task, not to listen, and the loss of materials necessary for tasks, at levels that are not consistent with age or level of development (Koutsoklenis and Honkasilta 2023) [2].

Interoceptive mindfulness can be broadly characterized as the cognizant discernment of an inner substantial state, for illustration, one's heart beating and breathing. These faculties are related to enthusiastic encounters. Mindfulness of both organic and passionate inside body signals are affected in people who are influenced by injury, countering intergenerational injury, and neurodevelopmental inabilities counting extreme interovertedness range (Schauder, Mash, Bryant, & Cascio, 2015) [3]. Academic performance refers to the knowledge attained and designated by marks, assigned by teacher. In education context, academic performance is the educational goal

to achieved by the student, teacher or institution over a certain period and is measured either by examinations or continuous assessments and the goal may differ from one individual or institution to another. Academic performance is the outcome of education, the extent to which a student, teacher or institution has achieved their educational goals (Narad and Abdullah, 2016) [4].

Due to the deficits ADHD has on a child's occupational performance occupational therapist are able to provide interventions to enhance engagement in everyday activities. Occupational therapist have ability to address deficits related to social skills, play, executive functioning impulsivity, inattention, and motor coordination (Kaneko & Okamura, 2005 [5]; poulsen, racine *et al.*, 2008 [6]; Wehmeier *et al.*, 2010 [7]; Barkley, 2004 [8]; Kirby, Salmon, & Edwards, 2007 [9].

MATERIALS AND METHODOLOGY

The study was carried out in Montfort school, Butt road. Study design was a quasi experimental study, convenient sampling technique were used 30 samples were collected according to inclusion and exclusion criteria Vanderbilt ADHD Diagnostic Teachers Rating Scale was administered as a screening tool for 30 students and their scores falls under the subtypes of predominantly inattentive, predominantly hyperactivity /impulsive or

ADHD combined inattention /hyperactivity (mild to moderate ADHD). The APRS (Academic performance rating scale) was administered to assess the level of academic performance.

The participants were divided into 15 children in control group and 15 children in experimental group using a convenient sampling technique. Totally 36 sessions were provided, 3 sessions per week, each session for 45 minutes, sessions 1 and 2 for pre- test, sessions 35 and 36 for post-test, and the intervention was given for 32 sessions. Conventional occupational therapy was provided to the participants of the control group and Interoception based activities was given for the participants of the experimental group. The post – test was administered to identify the effect of interoception activities and academic performance in students with ADHD.

RESULTS AND DISCUSSION

Table 1 The results portrays the demographic distribution for control group. The results showed in **Table 1** portrays the results of the statistical analysis of pre and posttest of control group on academic performance. Since the p value is less than 0.05, in the academic performance rating scale for control group, alternate hypothesis is accepted. Hence, there is statistically significant difference in Control

Group between pre-test and post test scores of Academic performance in control group. This suggests that the children who received conventional occupational therapy in control group had significant improvement.

Table 2 The results portrays the demographic distribution for experimental group. The results showed in **Table 2** portrays the results of the statistical analysis of pre and posttest of experimental group on academic performance, The alternate hypothesis has been accepted since the p value for the experimental group's academic performance is less than 0.05. As a result, the experimental group's pre- and post-

test results on the Academic performance differ statistically significantly. This suggests that the children who received interoception activities in experimental group had significant improvement.

The outcomes of the statistical analysis of the control and experimental groups' post-scores on academic performance are displayed in **Table 3**. An alternative hypothesis is accepted because the academic performance p value is less than 0.05. Therefore, on the academic performance, there is a statistically significant difference in the post-test scores between the experimental and control group

Table 1 Statistical analysis of pre- test and post- test in control group

Test	Mean	SD	N	Z value	p value
Cntr1_Pre	48	9.68799	15	-2.501	0.012*
Cntr1_Post	49.6	9.10102	15		

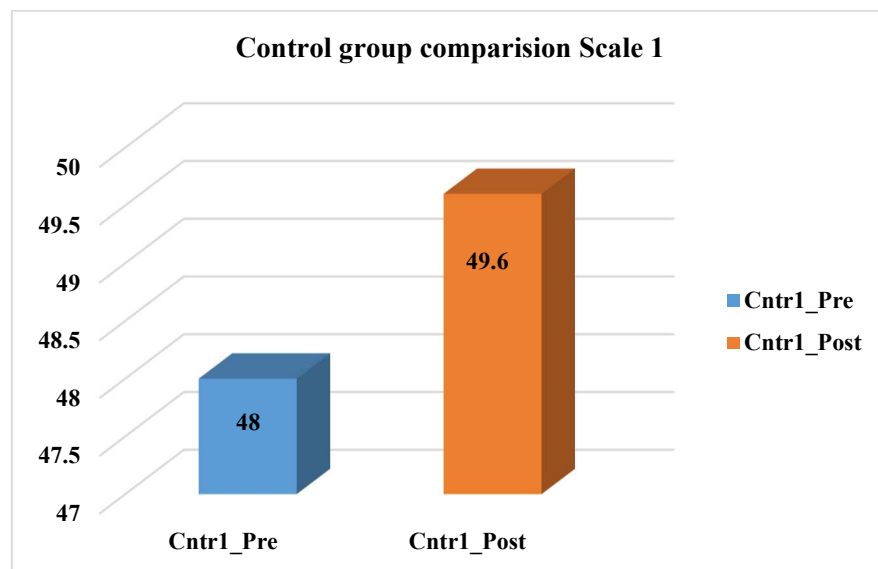


Figure 1

Table 2: Statistical analysis of pre- test and post- test in experimental group

Test	Mean	SD	N	Z value	p value
Expt1_Pre	46.4667	9.37982	15	-3.424	0.001*
Expt1_Post	57.5333	9.00688	15		

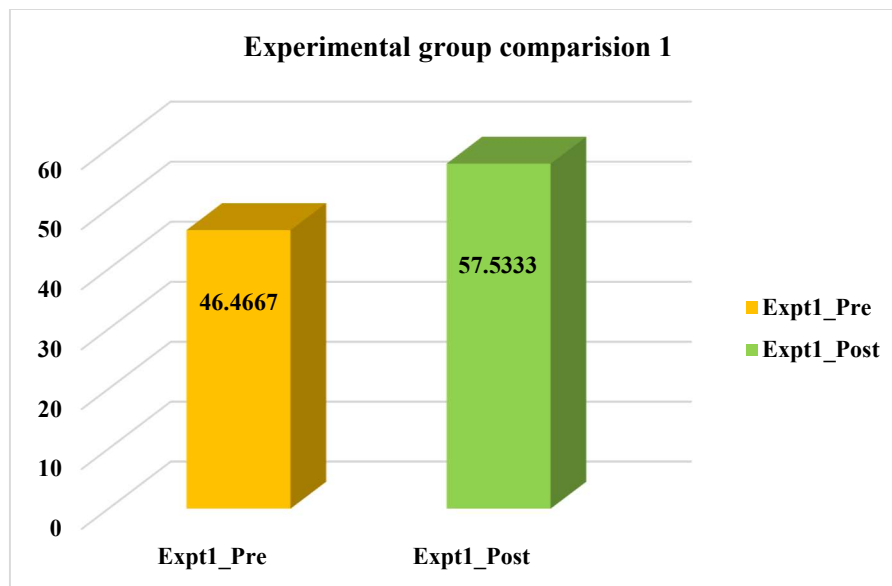


Figure 2

Table 3: Statistical analysis between the post- test scores of the control and experimental group

Group	Mean	SD	N	Z value	p value
Cntr1_Post	49.6	9.10102	15	-2.073	0.038
Expt1_Post	57.5333	9.00688	15		

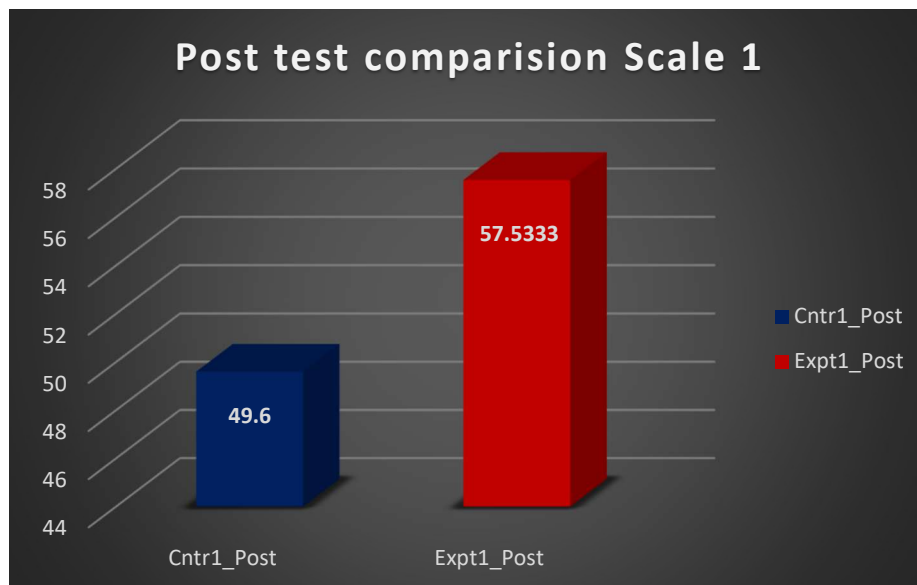


Figure 3

The purpose of this study was to examine the effect of interception activities to improve academic performance among children with attention deficit hyperactivity disorder. The study was conducted in the Montfort

matriculation school at butt road. A total of thirty (30) children were selected who are comes under the diagnostic criteria of attention deficit hyperactivity disorder were selected based on convenient sampling using the

selection criteria described in the methodology and randomly allocated to the experimental and control group in each 15 samples. The age of selected samples ranged from 6 to 8 yrs. The study included both male and female. The experimental group received the interoception activities for 32 sessions for 35 mins to 45 minutes each, while the control group received conventional therapy for the same time period. Outcome evaluation were administered with Academic performance rating scale. The results showed in **Table 1** portrays the demographic distribution for control group. The results showed in **Table 2** portrays the demographic distribution for experimental group. The results showed in 1 portrays the results of the statistical analysis of pre and posttest of control group on academic performance. Since the p value is less than 0.05, in the academic performance rating scale for control group, alternate hypothesis is accepted. Hence, there is statistically significant difference in Control Group between pre-test and post test scores of Academic performance in control group. This suggests that the children who received conventional occupational therapy in control group had significant improvement. The results showed in **Table 2** portrays the results of the statical analysis of pre and posttest of experimental group. The alternate hypothesis

has been accepted since the p value for the experimental group's academic performance is less than 0.05. As a result, the experimental group's pre- and post-test results on the Academic performance differ statistically significantly. This implies that there was a notable enhancement in the intervention that the children in the evaluation group received. The research conducted by Emma Goodall confirmed the same outcome. The findings in 2021 showed that interoceptive awareness enhances self-control and learning engagement. **In 2018, Michelle Popham [10]**, Jennifer Counts conducted the study on A systematic Review of Self-Regulation Strategies to improve academic self-regulation among students with Emotional Behavioural disorder.

The outcomes of the statistical analysis of the control and experimental groups' post-scores on academic performance are displayed in **Table 3**. An alternative hypothesis is accepted because the academic performance p value is less than 0.05. Therefore, on the academic performance, there is a statistically significant difference in the post-test scores between the experimental and control groups. Emma Lynne Goodall (2020) [11] corroborates this finding with her research, which shows that children, adolescents, and their educators have improved

interoceptive awareness over time and exhibited increased efficacy in self-regulation.

CONCLUSION

There are only few supporting articles for this study. This study addressed all the aims and objectives and concludes that the therapy is effective in improving academic performance among children with attention deficit hyperactivity disorder. The findings indicate that as children engage in interoceptive activities over a number of period, so that there is an increase in their academic performance. Hence this Interoceptive activity can be used as a therapeutic modality for improving the academic performance.

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