

ADHD TREATMENT OUTCOME DIFFERENCE BETWEEN INDIVIDUAL PARENT-
CHILD INTERVENTION AND GROUP PARENT-CHILD INTERVENTION

WITH THE SAME PROTOCOL

by

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Abstract

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This research study aimed to compare two groups: one with brief parental involvement in child individual therapy and the other with intensive parental involvement in child and parent group therapy ADHD (Attention Deficit Hyperactivity Disorder) treatment with the same protocol. This study design is a secondary data analysis of an administrative data set using mixed methods. The total sample size was 36. Quantitative results suggest that those parents and children who attended more than three sessions showed improvement in ADHD symptoms and functioning. Each additional child session attended increases the likelihood of improvement in the child by 1.575%. Similarly, the result suggests that each additional parent session attended increases the likelihood of improvement in the child by 3.422%. Qualitative findings suggest that being in a blended, military, or single parent family, having low mental health literacy, and having a newly diagnosed child pose unique challenges when raising a child with a chronic disorder like ADHD. Similarly, during the course of intervention, psychoeducation helps parents to understand the disorder better and to cope with it.

Table of Contents

Acknowledgements.....	iii
Abstract.....	iv
List of Tables.....	vii
Chapter 1: Introduction.....	1
Background of the Study.....	1
Statement of the Problem.....	1
Objective of the Study.....	2
Significance of the Study.....	2
Chapter 2: Literature Review.....	3
Research Question.....	7
Chapter 3 Methodology.....	8
Rationale of the Selected Site and Sample Size.....	8
Research Design.....	9
Research Tools for Data Collection.....	9
Variables.....	9
Data Analysis.....	10
Chapter 4: Results.....	11
Results from Quantitative Data.....	11
Quantitative Individual Intervention Outcome Data.....	13
Quantitative Group Intervention Outcome Data.....	14
Logistic Regression Analysis.....	15
Results from Parental Group Intervention Data.....	16

Theme 1: Challenges.....	16
Theme 2: Issues with Trial Medication.....	17
Theme 3: Various Levels of Understanding about ADHD.....	18
Theme 4: Struggle to Find Age Appropriate Incentives.....	20
Theme 5: Social Support.....	22
Chapter 5: Discussions.....	23
Limitations of the Study.....	26
Chapter 6: Conclusions and Recommendations.....	27
References.....	29
Biographical Information.....	34

List of Tables

Table 1: Individual ADHD Intervention.....	7
Table 2: Group ADHD Intervention.....	7
Table 3: Individual/Group.....	11
Table 4: Age in Years.....	11
Table 5: Gender.....	12
Table 6: Descriptive Statistics.....	12
Table 7: Quantitative Individual Intervention Outcome Data.....	13
Table 8: Quantitative Group Intervention Outcome Data.....	14
Table 9: Likelihood of Improvement in Child as per the Increase in Child Session.....	15
Table 10: Likelihood of Improvement in Child as per the Increase in Parent Session.....	15

Chapter 1

Introduction

1.1 Background of the Study

The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association (2013) has defined Attention-Deficit/Hyperactivity Disorder (ADHD) as “a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development on social and academic/occupational activities” (p.59). According to the National Institute of Mental Health (NIMH), among various childhood disorders, ADHD is the most common mental illness, and may continue from childhood to adolescent and also adulthood (2015, para. 1). The three different subtypes of ADHD are predominantly hyperactive-impulsive, predominantly inattentive, and combined hyperactive-impulsive and inattentive. (Centers for Disease Control and Prevention [CDC], 2015). In predominantly hyperactive-impulsive subtype, most of the symptoms are related to the hyperactivity and impulsivity. Similarly, the other subtype predominantly inattentive includes most of the symptoms from inattention symptoms category (NIMH, 2015). The last subtype combined hyperactive impulsive and inattentive includes many symptoms from both first and second subtype. This is the most common type of ADHD among children (NIMH, 2015). The causes of ADHD are unknown to modern science. However, many studies have suggested that human genes play a vital role in causing ADHD (Swanon et al., 2000; Trip & Wickens, 2009; Brown, 2003; & Burbach, 2010).

1.2 Statement of the Problem

There are many misconceptions about ADHD and its treatment acceptability. Treatment acceptability refers to the treatment acceptance from the parents that their child has ADHD and needs to be treated. ADHD is one of the most diagnosed mental illnesses in the United States. In

the past ten years, the number of children diagnosed with ADHD has increased. According to CDC (2015), 11 percent of the children aged 4 to 17 were diagnosed with ADHD in 2011. Similarly, the ADHD diagnostic rate in 2003 to 2007 increased from 7.8 percent to 9.5 percent, and from 2007 to 2011, the rate increased from 9.5 percent to 11.0 percent (CDC, 2015). According to CDC, an average age for ADHD diagnosis is 7 years old. There are instances of severe ADHD before 7 years old as well. Considering the wide prevalence of ADHD among children, this paper studied the ADHD treatment outcome differences between two groups: One with individual parent-child treatment and one with group parent-child treatment. This may help researchers and practitioners determine whether psychoeducation provides any contribution to a better outcome of ADHD treatment and maximize its impact on intervention programming.

1.3 Objectives of the Study

The major objective of this study is to identify the outcome differences between the two groups: one group receiving individual ADHD treatment with brief parental involvement and the other group receiving parental group treatment using same protocol at the Center for Clinical Social Work (CCSW), a research center at the University of Texas at Arlington, School of Social Work.

1.4 Significance of the Study

This study has three major aims. First, this study provides valuable information on outcome differences between ADHD individual treatment with brief parental involvement compared to parental group treatment receiving the same protocol in group. Second, since there are very few research studies conducted related to this topic area, this study will also contribute to the body of social work literature. Third, this study provides valuable information to social work practitioners on ADHD group intervention and its effectiveness with psychoeducation.

Chapter 2

Literature Review

Studies in the area of ADHD often target the population diagnosed with ADHD. Studies conducted on ADHD group intervention where parents are involved as a part of the treatment intervention is sparse and fragmented. In their study, Luccherino, Mancini, and Marcurio (2014) provided cognitive behavioral intervention as a training model to four couples, who are the parents of children diagnosed with ADHD. The training lasted up to 12 meetings. Parents reported a significant increase in their knowledge level of ADHD after the intervention, which helped parents to strengthen their family relationship. Similarly, parent's behavioral management skills were improved with more focus on problem-solving strategies.

In their study, Sibley et al. (2013) found that 70 to 85 percent of the participants showed improvement after the treatment program. The study was conducted on 20 adolescents aged 12-16 and their parents. The behavioral treatment program was an eight week long intervention, where 320 hours were focused on adolescent treatment and 15 hours of training was allocated for the parent's behavior management training. Their study found that medicated adolescents argued less and had a higher level of treatment motivation. However, the authors acknowledged that the limitation of history of maturation and the passage of time could have played a significant role as well. Ferrin et al (2014) have mentioned the importance of psychoeducation in regard to ADHD treatment because it helps to improve treatment outcome and family relationship. Psychoeducation is not a substitution for usual treatment but it may complement to the individual treatment (Ferrin et al., 2014).

Similarly, Luccherino et al. (2014) state that the informative intervention to parents of children with ADHD helps to manage behavior with a better understanding of their children.

Another study conducted by Fabianno (2007) found that involvement of parents in the behavioral parent training helped to enhance parenting strategies, family functioning, and competence.

However, the author indicated the need of further research on parental involvement on ADHD treatment. Bussing et al. (2012) conducted a longitudinal study that analyzed data from 1998 to 2008, which included data from 374 interviews conducted on average over a 7.7 years time frame. The findings of this study showed the differences in the level of knowledge in adolescent and parents between ethnic groups (Bussing, et al., 2012). This study showed a higher level of knowledge by Caucasians compared to African American parents. However, this study could not determine if the knowledge had any impact on treatment outcome.

In their meta-analysis with 399 studies from databases, Mulqueen, Bartley, and Bloch (2015) studied the effectiveness of interventions to parents of children with ADHD. Their meta-analysis suggested that an intervention with parents while treating ADHD in children may be effective. However, they have suggested further research on parental intervention to determine short-term and long-term positive impact. The online survey conducted on 196 participant, which includes 21 percent male, 75 percent female, and 4 percent others, tried to measure ADHD knowledge and treatment acceptability by using the “Strength of Belief in ADHD Knowledge Scale” (Sciutto, 2015). The data suggested the existence of a low level of awareness of ADHD and high level of misconception about ADHD treatment. In his article, Sciutto indicated the need to address mental health literacy directly, with opportunities to deal with individual differences.

Ghanizadeh (2007) did a cross sectional study on 119 parents with children having ADHD and studied levels of parent’s knowledge on ADHD. Forty percent of parents indicated the cause of ADHD as the child’s inadequacy, 52 percent indicated the cause of ADHD as the result of parenting inadequacy, and only 2.6 percent agreed that ADHD is a mental illness

(Ghanizadeh, 2007). This article indicated a serious need for parental awareness programs on ADHD to improve the family and social outcomes. Bussing, Schoenberg, and Perwien (1998) interviewed 709 participant regarding ADHD knowledge. The result showed that 40 percent (N=209) believed ADHD is caused by consuming too much sugar in a diet, 14 percent indicated that they are unsure whether sugar has played any role in causing ADHD, and only 10 percent were sure ADHD is not the caused high by sugar consumption. According to Bussing et al. (1998), there is a clear misconception about ADHD in the parents of children with ADHD.

Dreyer, O`Laughling, Moor, and Milan (2010) studied 80 parents regarding ADHD psychosocial assessments and recommendations. The main recommendations of this study to the parents were to educate themselves and start putting their child on medication (Dreyer et al., 2010). The study found that parents were less active in self-educating and following through with the recommendations (Dreyer et al., 2010). The study found that those parents who followed the recommendation reported improvement in their child's behavior (Dreyer et al., 2010). Hebert, Polotskaia, Jooper, and Grizenko (2013) studied the attitude on psychostimulants to see if it has any influence on ADHD treatment. The sample population of the study included parents of 33 children who received treatment in the Douglas Mental University Institute (Hebert et al., 2013). The result of their study showed that parents who received psychosocial education increased the treatment acceptability on ADHD.

Lazaratou et al. (2007) studied parental attitudes towards psychotropic medications for treating psychiatric disorders with 140 participants. In their study, 20 percent of the participants reported that they thought psychiatrists prescribe a higher dose of medication than is required (Lazaratou et al., 2007). Most of the parents reported that they fear drug addiction as a result of putting their child on psychotropic medications, and said they would prefer the psychotherapy

only (Lazaratou et al., 2007). Dean, Wargg, Draper, and McDermott (2011), conducted a cross sectional survey on medication management. One week prior to the assessment, out of total 84 participant, 38 percent reported that they missed one dose, and 11 percent reported that they took 80 percent less than prescribed (Dean et al., 2011). Dean et al. (2011) recommended parental involvement in monitoring the medication routine.

DosReis and Myers (2008) reviewed existing research on parental views on ADHD medication and found that there is a high misconception about the use of medication among parents, and this misconception is high among the low income families and ethnic minorities. DosReis and Myers (2008) said that providing psychoeducational treatment may be helpful in decreasing misconceptions about psychotropic medication. Steven et al. (2009) studied the parental perception on psychotropic medication on ADHD in relation to other treatments like psychotherapy. From the 501 participant, the study found mixed perceptions about medication while some thought it is effective and some thought it is ineffective. Based on their study, Steven et al. (2009) said that there is high level of misconception about medication among African American parents compared to other ethnic groups.

The literature review as described above continuously shows the gap between ADHD treatment and awareness level of parents. Furthermore, the literature demonstrates the need for psychoeducational treatment for parents promoting positive ADHD treatment outcomes and positive family relationships. The CCSW at the University of Texas at Arlington has been conducting a concurrent group summer intervention for the parents of children diagnosed with ADHD. The summer groups last eight weeks long during which parents are provided with 45 minute long group psychoeducation followed by sharing of their knowledge and experience which psychoeducation followed by sharing of their knowledge and experience which facilitated

into the creation of a support group. CCSW also provides individual ADHD treatment with brief parental involvement throughout the year (for more clear understanding about individual and group intervention, see the Table 1 and 2 below). In this study, the researcher aimed to study outcome differences between ADHD treatment outcomes in receiving individual treatment with brief parental involvement compared to parental group treatment receiving the same protocol in group.

Table 1

Individual ADHD Intervention

Individual ADHD Intervention (Provided throughout the year)		
Number of child session	12	Intervention is provided individually
Number of parents session	1 or as needed	Psychoeducational session provided individually

Table 2

Group ADHD Intervention

Group ADHD Intervention (Provided during summer only)		
Number of child session	8	Intervention provided in a group
Number of parents session	8	Psychoeducational sessions provided in a group

2.1 Research Question

How do outcomes of children with brief parental involvement receiving the individual protocol compare to outcomes of children with concurrent parental group treatment involvement receiving the same protocol in group?

Chapter 3

Methodology

3.1 Rationale of the Selected Site and Sample Size

The researcher has selected the CCSW as the major site of this study. CCSW is a clinical and translational research center. The center provides evidence based intervention on various mental illness. The rationale behind selecting this site is that CCSW has been providing psychoeducation intervention on ADHD to parents, and a brief, stepped care adaptation of the Impulsive Child Protocol to the children with ADHD. This intervention protocol lasts up to 20 sessions. However, it can be extended or decreased to more or less sessions according to the need of clients (Kendall, 2007). Impulsive Child Protocol to the Children with ADHD has two versions: “Therapist Manual” and “Stop and Think Workbook”. (Kendall, 2007; Kendal, 1992). In the beginning, the psychoeducation requires a classroom setting (Kendall, 2007). Kendal (2007) say “The central purpose of these tasks is to foster the acquisition of the problem-solving steps (and self-instructions) and the rules for earning and using \$stop and Think Dollars\$” (p.1). According to Kendall (2007), research has shown that the Impulsive Child Protocol is effective and efficacious in treating impulsive children. This protocol was tested and found effective before being adapted by the CCSW. Another reason for choosing this site is because of the researcher’s convenient access to the site as a clinical intern.

This study had the sample size of 36 (N=36), which included participants at the CCSW receiving individual and group treatment from 2013 to 2015. The data were collected and utilized from parents of children ages 7 to 15 years old. The resulting sample of the study was 8 participants receiving the individual protocol and 28 participants receiving the group treatment with the same protocol plus parent group intervention.

3.2 Research Design:

This study applied an exploratory research design with mixed methodology (Padgett, 2011). The purpose of choosing this design was to test the hypothesis that the increased parental involvement in the group format was associated with improvement in ADHD treatment outcomes for the children. The researcher collected and analyzed qualitative and quantitative data in a sequence. The data set included data that were collected from 2013-2015.

3.4 Research Tools for Data Collection

Quantitative data were collected from the pre-test and post-test conducted from 2013 through 2015 by using the following instruments: Conner's Scale (Conners, Sitarenios, Parker, & Epstein, 1998). Conner's scale was used to collect information on the child's behavior from the parents, teacher, and child. Similarly, the additional data were collected from the individual and group ADHD intervention case file's termination summary sheet. Similarly, the qualitative data were collected from the audio transcripts from the ADHD parental group treatment from 2013 to 2015. The researcher acquired approval from Institutional Review Board (IRB) in order to conduct the research.

3.5 Variables

In this study, there is one outcome variable (dependent variable) that is the treatment outcome. There are two independent variables: i) Children with brief parental involvement receiving individual protocol. ii) Children with concurrent parental group treatment involvement receiving the same protocol in group.

3.6 Data Analysis

In this paper, quantitative and qualitative data were analyzed separately. Quantitative data attempted to examine the difference between individual treatment protocol with the brief parental involvement and children with concurrent parental group treatment involvement with the same protocol in group. Quantitative data were analyzed through the logistic regression analysis and descriptive analyses.

Qualitative data were analyzed using a thematic coding process following phenomenological data analysis (Padgett, 2008). This method is chosen because the participants in this research study share the similar life experiences. In order to get the finding, researcher will examine the transcripts. Padgett (2008) says “phenomenological analyses examines interview transcripts in search of quotes and statement that are emblematic in meaning. These are clustered into themes that form the architecture of the findings” (p. 36). The analysis process included open coding, axial coding, and selective coding. Open coding included several readings of the transcripts and label creation on the action that is happening. Something that had high repetition was regarded important and was coded first. After researcher coded the transcript, the transcripts were independently coded by a second rater. Then raters reconciled the coding by consensus. Similarly, other information the researcher thinks is important was also coded. In the axial coding, the researcher made connection within the open codes. However, the unimportant codes were dropped later and only the important ones were used. Finally, the selective coding was used to select important variables of the data. The codes were categorized into different themes and were labeled.

Chapter 4

Results

4.1 Result from Quantitative Data

In the following section, the researcher has presented the finding from quantitative data. Due to very small sample size with complete pre- and post-test, researcher could not conduct any statistical tests, such as T-test or multiple regression analysis. However, in the following tables, frequencies of different variables has been calculated.

Table 3

Individual/Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Individual	8	22.2	22.2	22.2
	Group	28	77.8	77.8	100.0
	Total	36	100.0	100.0	

Table 4

Age in Years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6	2	5.6	5.6	5.6
	7	6	16.7	16.7	22.2
	8	5	13.9	13.9	36.1
	9	7	19.4	19.4	55.6
	10	6	16.7	16.7	72.2
	11	3	8.3	8.3	80.6
	12	5	13.9	13.9	94.4
	14	1	2.8	2.8	97.2
	15	1	2.8	2.8	100.0
	Total	36	100.0	100.0	

Table 5

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	6	16.7	16.7	16.7
	Male	30	83.3	83.3	100.0
	Total	36	100.0	100.0	

Table 6

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age in Years	36	6	15	9.42	2.170
Valid N (list wise)	36				

Table 3 shows the frequencies of individual ADHD treatment and group ADHD treatment at the CCSW from 2013 to 2015. The total number of individuals who received individual treatment with at least one parent session and 1 child session is eight, which is 22.2 percent in total. Similarly, the total number of individuals who received group treatment with at least one parent session and one child session is 28 which is 77.8 percent in total. The mean dosage for the group treatment format was 3.68 for children and 3.71 for parents. The mean dosage for the individual treatment format was 8.62 for children and 2.25 for parents.

Likewise, table 4 shows the frequency of child participants' age by years. The total number of participants were 36, among them three children were aged six, six children were aged seven, five children were aged eight, seven children were aged nine, six children were aged

10, three children were aged eleven, five children were aged twelve, one child was aged 14 and one child was aged 15.

Similarly, table 5 shows the frequency of male and female who received group/individual treatment at the CCSW from 2013 to 2015. Data suggest that there were six female participant which is 16.7 percent and 30 males which is 80.3 in total. Likewise, table 6 shows the descriptive analysis of children's' age. In total 36, the age ranges from 6 to 15 where the average age who participated at the CCSW comes to be 9.42.

4.2 Quantitative Individual Intervention Outcome Data

The following finding is extracted from the termination summary sheet from the participants who have at least one parent session and one child session. There were eight participant who received individual treatment at the CCSW following the therapist manual STOP AND THINK WORKBOOK from 2013 to 2015. Out of eight participants, five were reported to improve, representing 62.5 percent (see table 7).

Table 7

Quantitative Individual Intervention Outcome Data

S.N.	Number of child session	Number of parent session	Remarks
1	15	3	Improved
2	15	3	Improved
3	1	1	No improvement reported
4	4	1	No improvement reported
5	13	2	Improved
6	15	3	improvement reported at school
7	15	3	No report of improvement
8	6	2	Improved

4.3 Quantitative Group Intervention Outcome Data

The following finding is extracted from the termination summary sheet from ADHD group treatment from 2013 to 2015. This finding tells us if the improvement was reported by a participant after receiving the treatment. The total number of participant who at least received 1 treatment session, which includes at least one parent and one child session, were 28. Thirteen, or 46.4 percent, indicated improvement from the intervention (see table 8).

Table 8.

Quantitative Group Intervention Outcome Data

S.N.	Number of child session	Number of parent session	Remarks
1	15	15	Improved
2	9	9	Improved
3	1	1	Not improved
4	7	7	Improved
5	5	5	Improved
6	2	2	Neutral response
7	1	1	Neutral response
8	4	4	Improved
9	1	1	Neutral response
10	5	5	Improved
11	3	3	Not improved
12	4	4	improved
13	7	7	Improved
14	7	7	Improved
15	6	6	No improvement
16	3	3	improved
17	1	1	No improvement
18	1	1	No improvement
19	2	2	No improvement
20	4	4	Improved
21	1	1	No improvement
22	4	4	Improved
23	1	1	No improvement
24	5	5	Improved
25	1	1	No improvement
26	1	1	No improvement
27	1	1	No improvement
28	1	1	No improvement

4.4 Logistic Regression Analysis

Logistic regression analysis was done for the dichotomous dependent variable of child improved vs. child not improved and independent variable of treatment condition (i.e. individual treatment vs. group treatment). Based on the regression results, the final model for effect of group versus individual treatment on child improvement was not significant ($X^2 = .648$; $p = 0.42$).

Table 9

Likelihood of Improvement in Child as per the Increase in Child Session (N = 36)

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 ^a	Child Session	.455	.175	6.774	1	.009	1.575	1.119	2.219
	Constant	-1.957	.753	6.747	1	.009	.141		

a. Variable(s) entered on step 1: Child Session.

Table 9 presents logistic regression results where the dichotomous dependent variable of child improved vs. child not improved and the independent variable is number of sessions attended by the child (i.e., Child Session). The final model was significant ($X^2 = 15.608$; $p < .0001$). The coefficient for Child Session is positive and significant. The results suggest that each additional child session attendance increases the odds of improvement in the child by 1.575%.

Table 10

Likelihood of Improvement in Child as per the Increase in Parent Session (N = 36)

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 ^a	Parent Session	1.230	.406	9.174	1	.002	3.422	1.544	7.585
	Constant	-3.431	1.131	9.197	1	.002	.032		

a. Variable(s) entered on step 1: Parent Session.

Table 11 presents logistic regression results, where dependent variable where the dichotomous dependent variable of child improved vs. child not improved and the independent variable is number of sessions attended by the parent (i.e., Parent Session). The final model was significant ($X^2 = 22.410$; $p < .0001$). The coefficient for Parent Session is positive and significant. The results suggest that each additional parent session attendance increases the odds of improvement in the child by 3.422%.

4.5 Results from Parental Group Intervention Qualitative Data

Theme 1: Challenges

ADHD is a type of mental disorder which can be challenging to both the child and parents regardless of any condition. However, it can be more challenging to military parent and single parents. The following quotation is mentioned by a military parent in the ADHD summer group treatment in CCSW.

That's really is cause we live in campus so I have a small place and he has a lot to.. my husband he is in a school too. He is in a grad program and I am still in a undergrad program so we are always, if he is not studying he is writing paper or vice versa. So we really don't have, there is nothing I can say. I don't really know my son because I have been deployed most of his life so that's another obstacles. I am really still trying to figure him out. The most I can tell you is he is poking on and tablet. And I can't take away the tablet because its affecting us at home.

Literature also shows that dealing with ADHD is challenging for child who belongs to military parents and it is challenging to the military parents as well. According to Milburn and Lightfoot (2013), ADHD is most challenging and most commonly reported mental disorder in them military family, especially when one or both parents are deployed most of the time. Besides

military parents, having a child with ADHD can be equally challenging to the single parents. Issues like time management, lack of understanding of the disorder, lack of resources, and lack of support system plays a vital role. In the following quotation, one of participant single mom says:

I am a single mom. I have a daughter and she is eight tomorrow. Yes! and she was diagnosed with ADHD in late 2013, but it's been a struggle.. a really big struggle. And me being a single parent I am trying to see what information I can get with how deal with her, and her behavior.

The single parent seems to be struggling to get the information so that she can better deal with her child's disorder. In addition, being new to the disorder poses new challenges and dilemmas besides other obstacles and constraints she already has.

Theme 2: Issues with the Trial Medication

Parents at the CCSW summer treatment group talked about the various issues and difficulties associated with the ADHD trial medication. They reported that trial medications have a number of side effects on their children. According to the participant, once they have put their child in the ADHD trial medication, the side effects, such as disturbed sleeping patterns, lower appetite, and weight loss have been prominent. The following two quotations show the parents worry of meds side effects on their child.

It is hard for him to get the good sleep. But we noticed that when he has good sleep, next day he is calm and when he does not have good sleep, wakes up at 5 am that day is very hard.

Concerta? She's been on it for, like, 18 months. So, about a year and a half. But, I mean she started at, 36 [mg]. Then we went to 36 and 18, at like, mid-day. Now we're at 54,

and then we went to 54 and 18, so she's on a very high dosage. And she has dropped weight.

Some of the parents were concerned that medication has stopped working for their child. Parents said that they had tried switching the medication and adjusted the dose with prescriber's consultation, but the child had stopped showing any improvement.

The thing we have been struggling: we have been dealing with him 5 years in ADHD part and he is been taking different medicine and we arrived to a point where one medicine is taken for too long, it's not working for him anymore. It's just like he's so immune to it plus it's not helping him in school and we have been switching out to different medicine.

The first one was taking 'Adderall' which was giving him some heart problem and other problem, so they switched him to 'Concerta'. They start him with the low doses and then they increase the dose. But in school it was helping him, but after it was not, so they give him two doses: one in the morning and one at 3 o'clock. But, over time now it's with new medicine, its doing the same at school or at home; medicine vs no medicine.

Theme 3: Various Levels of Understanding about ADHD

The main purposes of summer concurrent parent group treatment are to provide psychoeducation about ADHD to the parents, teach behavior modification techniques, and to build a support network among the parents. During the group treatment, therapists find that the mental health literacy levels of parents widely differ. Some parents have high level of understanding about ADHD and some have partial or low levels of understanding. Some examples are presented about the parents understanding about the disorder: .

I remember that I did that at home cause his kindergarten teacher advised that if I did the same reinforcement that she does at school, then it's like a continuous cycle. One thing I read in research is that ADHD children, they need constant redirection. They need constant structure, organization. If we apply these things at home...I tried to do. I did a chart with the little stars on it.

In this quotation, this parent seems highly educated regarding ADHD. The parent has done reading and received advice to learn how to deal with it. The parent well understands that you cannot underemphasize the constant redirection and structure with proper implication of positive reinforcement. In the quotation, parent has mentioned that he/she has used a chart in order to implement positive reinforcement.

In contrast, some parents are very new to the disorder. New to having child with chronic disorder definitely need better understanding of disorder in order to deal with it appropriately.

My name is.... My son is seven and he is just diagnosed with ADHD. I am really new to everything and so I am trying to know what going on. So my hope out of this is to better understand what he is dealing with and what is its really him being ADHD and him just being a kid you know where is that fine line. That is what I hope to I get out of this room.

In this quotation, the parent states that he/she lacks the information about the ADHD and is willing to learn as much necessary information as possible so that he/she can better deal with it. Parent is also willing to know what the child is going through with the disorder, where she seems to be developing empathetic side towards his/her.

Theme 4: Struggle to Find Age Appropriate Incentives

The therapist manual 'STOP AND THINK WORKBOOK' focuses in the rewards and incentives in order to positively modify the hyperactive behavior and help kids to focus more on the their task (Kendal, 2007). Rewards and incentives are based on the concept of positive reinforcement. Positive reinforcement can be defined as “ process, mechanism, or procedure where a behavior (R) is followed by a positive stimulus (S+), such that the subsequent frequency, duration, or intensity of behavior increases” (Cobb, 2008, p.225). Rewards and incentives can be provided in different ways like by verbally appreciating the good attempts of child, by giving something that a child loves like candy or cookie right after child attempts to do something, by giving some numbers or stars etc. STOP AND THINK WORKBOOK suggests to provide the reward numbers. It also suggests to set up a reward shop where rewards numbers can be cashed at by a child. Parents have reported the variety of response when they have started providing rewards and incentives for their child’s good behavior.

“...and every time he did something good, I give him a star and it works.” The statement from the parent shows the star for a child is guided through a positive reinforcement. As a result, a child is likely to repeat the same behavior again and again in order to gain the star. However, the rewarding with star may not be appropriate with all the children. Depending on the age of a child, parent may have to come up with different sets of rewards that works best. The following example shows how parents have tried different rewarding technique.

Yah, I did that already but the reward aspect that’s where I am stuck. My son is older and he also likes to be on computer. I reward him a lot with computer time. He likes YouTube. But the problem with YouTube is there is no FILTER. He started watching

five nights of Freddy and he started having nightmares and I had to like so just had to take it away. I don't have time to sit there and what you watching.

The statement shows suggests that the rewards should be age appropriate since their might be some constraints on parenting side in order to supervise the rewards. As stated in the statement above, the parent is not able to supervise what child is watching on YouTube since there is no FILTER in YouTube.

During the Summer ADHD group session, some parents stated there was a prevailing opinion about using rewards and incentives with children who have ADHD. For example, "I mean, use incentives, and I mean, it just doesn't work." Some parents have the concept that if you reward your child once, it should be working for forever. The following statement is an example of parents' frustration since the reward is only short term.

But the one thing going back on work part of it, we see that ok if you make this grade, we gonna buy this and this, we gonna reward you. But once that reward is done or accomplished, or if he is close to it, we still try to reward him but after again it's the same process. It's like a circle. And that what she was trying to get that I give him something but it's always struggle. It's just you don't get out of this circle.

The statement suggests that the parent is in need of proper of understanding of positive reinforcement, because it is hard for an individual to be no longer dependent on external rewards. It is a continuous process which encourages individual to continue good work and pursue good behavior for the reward and incentives.

Theme 5: Social Support

ADHD summer group seemed to be very supportive and helpful in regard to the information sharing between other parents who might be going through same issues. Parents shared about what worked best for their child, what their child is doing or where some useful resources are located. In the following statement, the parent has discovered that his/her child best focuses when he is on the computer with educational games so the parent utilizes that as a positive reinforcement.

That's what he needs to focus. Lot of ADHD kids focus really well when they are in front of computer that's one of the symptoms of ADHD. They can be sitting in front of the computer but their mind is still whining whining whining. So you can always put him on with educational games, it helps with the education and it's also fun.

The researcher also found that the parents are worried about their child's social skills. The child seemed reluctant to socialize and interact with people, and make friends. In the following statement, parent seem to be worried and willing to know if other parents also going through the same situation. "does she have social issues? Like making friends. That is the problem we dealing with. My son was really attached to my wife, because I was at work. At second grade, he stopped making friends. His only friends were his cousins".

In addition, during the group session, parents shared about the useful resources that might be helpful to other parents since everybody were dealing with the same type of disorder. the following statement is one of the examples of resources shared by parents during the session. "School provides the counselling. My son got it when she was six. They actually go the animal counseling as well."

Chapter 5

Discussions

In this section, both qualitative and quantitative data are analyzed in combination. In table 3, the data suggests that children from the ages 7 to 12 have the high frequency rate, who came to CCSW for the ADHD treatment from 2013 to 2015. Table 6 shows the average age of the children who participated at the facility was 9.42. Literature shows that children who were diagnosed with ADHD with at least few symptoms are at risk in regard to academic achievement during high school (Homlber & Bolte, 2014). A longitudinal study conducted by Homlber and Bolte showed that children's academic outcome is closely associated with the severity of the ADHD symptoms during the age of 7 to 10. Researchers use the Conner's parents and teacher scale with 544 ADHD diagnosed children. The result showed that there is a 30 percent to 40 percent risk for participant with poor academic result at age of 16.

Similarly, the data from table 5 shows that there were 6 females which is 16.7 percent and 30 males which is 83.3 percent of the total number of children. The data suggests that the ratio of male child ADHD diagnosis is high at the CCSW compared to female child. This datum is also supported by some of the literature that we have today. According to Arnett et al. (2015) and Willcut (2012), the ADHD rate is more prevalent in males children compared to female children where the ratio is 3:1, and that the symptoms severity is likely to be higher in males; however, further research is recommended by the researcher to test the severity level.

Data did not support treatment format (individual with brief parent session involvement versus group with concurrent parent group) as making a significant difference to outcomes in the child. This unexpected finding is particularly interesting in light of the smaller mean number of sessions in which parents were involved in the individual treatment format compared to the

group format. Dosage (number of sessions) for both child and parent sessions was found to have a significant association with improvement in the child. Number of parent sessions was associated with much higher odds of improvement than number of child sessions for this clinical sample of young school-aged children. Thus, one possible explanation for the non-significant format finding was that the higher average number of child sessions in the individual format created an equivalent impact to the more intensive parental involvement in the group format. It is important to note that this treatment occurred in an outpatient brief combination treatment context, with the medication component being monitored in the behavioral health setting but prescribed in a separate setting (e.g., clinic, primary care provider, psychiatrist, etc.).

The data from the summer ADHD parents group explores various issues, challenges, and difficulties that are being faced by the parents and children. Parents are worried because they are new parents with children with chronic condition, but at the same time they seem to be willing to learn the new techniques so that they can better handle the situation their children are battling with. Some parents have experienced demands of child with a chronic condition as a punishment to the parents. Similarly, parents participants have mentioned the various factors like family issues, and differences in parenting styles also impacting their capacity to handle chronic disorder like ADHD.

There seem to be additional, if not equal, challenges to some specific families with the ADHD child at home. Being in a blended family obviously poses some additional challenges. Similarly, single parenthood poses additional challenges to raising a child with chronic condition. It is also challenging to the military parents specially if the parents are deployed most of the time. It takes time to understand their child and child's need. As a result, most of the parents' primary goal is short term behavior modification of child.

Another major finding of this research is that many parents seem unhappy about ADHD medication and the “trial and error” process used to arrive at optimal treatment. Some parents reported that they are tired of switching medication and yet they are unable to find the right one. Some parents have frustration about the medication because of its side effects like disturbed sleeping patterns, decreased appetite, and weight loss. Although many parents seem to be new and confused with their child’s disorder, some parents were highly educated. They knew that ADHD kids need the constant redirection, structure, and organization along with the positive reinforcement.

Most of the parent participants either had no understanding or partial understanding of positive reinforcement and rewards system. When parents were asked to implement the rewards system as a positive reinforcement, they found positive outcomes. However, some parents struggled to find the age appropriate rewards

Data from Table 7 shows whether the improvement in the termination summary sheet of the participant has been reported or not. Out of eight children participant who received individual treatment from 2013 to 2015, five participant reported the improvement after receiving the treatment whereas termination summary sheet from the other three participants do not reveal any report of improvement.

Similarly, the data from the table number 8 show whether the improvement in the termination summary sheet has been reported . Out of 28 children participants and their parent/parents, 13 children’s parent reported some kind of improvement. These are the participants who at least attended the 3 treatment sessions. Similarly, other 15 participants who mainly received only one session, did not report any improvement. Based on the data, we can

infer that participants who at least attended more than 3 sessions of treatment showed benefit from the treatment.

5.1 Limitations of the Study

There are several limitations to this study. One major limitation of this study was missing quantitative data. Therefore, the major part of this current study was limited to the qualitative data. In addition, quantitative improvement data were based on the therapists' narrative termination summary and likely contain some degree of bias. Due to the absence of financial assistance for the study, there were no incentives provided to the participants during the course of the data collection phase. Finally, this study was limited to the participants receiving ADHD treatment at an outpatient research center from 2013 to 2015 only and therefore may not be generalizable to other participants receiving ADHD treatments.

Chapter 6

Conclusions and Recommendations

Although the study has various limitations, such as lower sample size and that no significant argument could be made on the basis of the quantitative data, this study also has several strengths that help strengthen the literature on ADHD. Due to the small sample size and low return rate on post-test measures by both teachers and parents, the researcher could not conduct any statistical tests in order to test whether there was difference between individual and group treatment in terms of outcome. However, the strengths of the study were the use of qualitative data from multiple intervention groups and the availability of qualitative data and dichotomous outcome data from both individual and group intervention formats. The qualitative data added value to the study as the researcher was able to delve deeper into the lived experience of the parents with children suffering from ADHD to recommend any positive interventions to enhance the nurturing environment of the children. In addition, the formation of the support group also adds value to the social environment as the parents who go through common issues can seek resources and support from these groups.

In conclusion, ADHD is the most common mental disorder, which is mainly diagnosed with children between the age of 6 to 12 in the United States. The severity of the symptoms between this age is high, which can adversely impact the academic outcome of children during high school. Similarly, both the individual and group treatment session seems to be helpful and beneficial to the child and parent if they attended more than 3 sessions. The results suggest that each additional child session attendance increases the odds of improvement in the child by 1.575%. The also results suggest that each additional parent session attendance increases the odds of improvement in the child by 3.422%. Psychoeducation about ADHD seems to be helpful

to the parents, since parents reported that they are new to the disorder and don't know what to do and how to handle the disorder.

Future research should examine the outcome differences between individual and group treatment with larger samples using statistical measures. Similarly, alternate data collection methods, such as telephone administration of post-test measures, could be explored to increase teacher and parent response rates.

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