

EFFECT OF BEHAVIOURAL PARENT TRAINING ON PARENT'S VERBALISATION IN REDUCING DISRUPTIVE BEHAVIOURS AMONG CHILDREN WITH ADHD

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ABSTRACT

The aim of this study is to investigate the effect of behavioural parent training on parents' verbalisation in reducing disruptive behaviours among preschool children with ADHD. There were three children diagnosed with ADHD-Combined (ADHD-C), two children with ADHD-Hyperactivity Impulsivity (ADHD-HI), and one child with ADHD-Inattentive (ADHD-I) involved in the study. Parent-Child Interaction Therapy (PCIT) is one of the promising behavioural parent training programmes has been employed in the study. By employing the PCIT, the pattern of changes in two main variables, parent's verbalisation and child disruptive behaviours in two different parenting skills, Child Directed Interaction (CDI) and Parent Directed Interaction (PDI) were observed and coded. The A-B single-case experimental design was applied to systematically test the effect of PCIT intervention on targeted variables throughout four different phases: Baseline (A1), Intensive Treatment (B-IT), Maintenance Treatment (B-MT) and Follow-up (F1). The pre-test and post-test assessments conducted were using Eyberg Child Behaviour Inventory (ECBI), Daily Parent Observation (DPO) to measure disruptive behaviour, and Dyadic Parent-Child Interaction Coding System (DPICS) to measure parent's verbalisation. It found that when parents showed some improvement in their verbalisation, the children scores showed below clinical cut-off points on measures for disruptive behaviours. Therefore, the findings indicated that PCIT was effective in increasing parent's proficiency in using positive verbalisation (praise, reflections and behavioural descriptions) and reducing their negative verbalisation (commands, questions, and criticism) when interacting with their child.

Keywords: Behavioural Parent Training, Parent-Child Interaction Therapy, Attention Deficit Hyperactivity Disorder, Disruptive Behaviours

Introduction

Addressing behaviour problems among preschool children with ADHD is important because disruptive behaviours appear to reach their peak levels by the time children enter the primary school. Children with significant disruptive behaviour in the first grade tend to show chronic aggression and noncompliance that persists into adolescence (Broidy, Nagin, Tremblay, Brame, Dodge, Fergusson, Horwood, Loeber, Laird, Lynam, Moffitt, Bates, Pettit, & Vitaro, 2003). Affected children are twice as likely to have difficulty in reading, and at greater risk for social and emotional problems (Pliszka, 2003). The early counselling intervention and prevention are important in helping ADHD children with parents to understand the signs of problems before occur and to take actions that help manage their lives. PCIT is one of the behavioural parent training programmes concentrated on the counselling intervention that teach the parents how to manage the behaviour of ADHD children. PCIT is founded on the principle that by increasing parental warmth and responsiveness to the child, the parent's attention and approval becomes a significant social reinforcement for the child. Once the quality of the parent-child relationship is improved, the goals of the PCIT are to increase parents' positive verbalisations (praise, reflections, and behavioural descriptions) and decrease parents' negative verbalisations (commands, questions, and criticisms). Typically, the evaluation of the effectiveness of PCIT in treating disruptive behaviours in children is accomplished by using the DPICS (Robinson & Eyberg, 1981) which consists of parent and child behaviour codes that focus on changes in parenting verbalisation and child behaviours (Vess, 2008). Therefore, the purpose of this study is to investigate the effect of PCIT on parents' verbalisation in reducing disruptive behaviours among preschool children with ADHD. The empirical findings from this study expects to contribute to the preparation of training module for respective counsellors and psychologists as one of the prevention strategies to cope with more potentially upcoming issues in mental health. This study not only intended to prepare the training module for counsellors or psychologists, but also for parents to cope with their affecting children. With this intervention, parents are taught how to bond with their children and to develop more effective parenting styles that better meet their children's needs. Parents are also learned positive interaction that children can learn from and trained to act as an agent of change for their children's behavioural problems. The findings of the study would also support the awareness on children mental health and the need for related counselling services (Zakaria & Asyraf, 2011). There is an increased need for counselling and psychology practitioners to provide or be involved in gifted children management, intellectual ability development, social and emotional learning of children, psychological testing and assessment (See & Ng, 2010). This is parallel with the policy of Malaysia National Mental Health Policy in improving the availability of mental health services by integrating psychiatric services in mainstream general health care with the view to provide psychosocial treatments.

Problem Statement

First, the main behavioural problems of children with ADHD are more likely to initiate disruptive, oppositional, noncompliance behaviours more than others. Approximately 60% of ADHD children have disruptive behaviours and tend to develop oppositional disorder, characterised by defiant and noncompliance behaviour (Parker, 2002). Noncompliance behaviour is one of the common disruptive behaviour conditions among children who diagnosed with ADHD (Hinshaw & Lee, 2003). Adapted versions of PCIT also have been shown to be effective in treating children with behavioural problems such as ADHD. Noncompliance behaviour is one of the main issues in the treatment of ADHD, however, there is no specific PCIT study focusing on treating noncompliance behaviour among ADHD preschool children. Therefore, this study took an initiative to understand the changes in noncompliance behaviour based on the parent's verbalisation pattern.

Second, the PCIT is one of the counselling interventions designed to address early child disruptive behaviour by training parents to use specific behavioural management and verbalisation skills with the purpose to increase parent-child attachment, warmth, effective parental discipline, and child compliance. The benefits of PCIT in decreasing disruptive behaviour among young children have been documented. Researches have shown empirical support for the use of PCIT as an early intervention treatment for families of young children with disruptive behaviour (Matos, Bauermeister, & Bernal, 2009). In Malaysia, a child who diagnosed with mental health illness will be first recommended to get the medical treatment to reduce their symptoms of illnesses (See & Ng, 2010) without giving the priority to parents to undergo the psychosocial treatments. Both parents and child have no opportunity to be involved in psychosocial treatment provided by hospital due to lack of professional mental health practitioners (See & Ng, 2010). Therefore, PCIT was conducted to observe its intervention effect on treating disruptive behaviour among preschool children with ADHD in Malaysia context.

Literature Review

Disruptive Behaviour and Poor Quality Parent-Child Interaction

As stated in Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), disruptive behaviour is an expression used to describe a set of externalising negative behaviours that co-occurring during childhood and which are referred to attention deficit and disruptive behaviour disorders (American Psychiatric Association (APA), 2000). According to American Academy of Paediatrics (AAP) (2013), ADHD is one of the most common disruptive behaviours in childhood that can continue through adolescence and adulthood. ADHD is characterised by three core behaviours: inattentiveness, impulsiveness and over-activity (hyperactivity) which are at an inappropriate level for the child's age. The latest version of DSM-5 categories ADHD into three presentations: ADHD-C (Combined), ADHD-I (Inattentive) and ADHD-HI (Hyperactivity-Impulsivity). Children with ADHD-HI show more aggressive behaviours, while children with ADHD-I tend to be more withdrawn and they are less aggressive than children with ADHD-HI or ADHD-C (APA, 2013). These symptoms of ADHD often appear early in life between the ages of three and six years old (AAP, 2013). Furthermore, these symptoms that tend to arise among preschool children have been suggested to hamper children's development and can lead to deficit in cognitive, emotional, and social growth (Adam & Baronberg, 2005).

Many researches repeatedly demonstrate that the quality of parent-child interaction is strongly and reliably associated with childhood disruptive behaviours. Studies indicated that poor parent-child interaction serves to increase and sustain the occurrences of child disruptive behaviour (Barkely, 2012; Beauchaine, Hinshaw, & Pang, 2010; Burke, Waldman, & Lahey, 2010). These children show a poorer quality of attachment relationships to their parents along with their significantly higher rates of stubbornness, verbal defiance, temper outbursts, arguments, and even physical aggression in their interactions with parents and other family members.

A study conducted by Harvey and Metcalf (2012) is to examine the interactions pattern between children and parents in predicting later disruptive behaviours across the preschool years. Participants were 258 of 3-year-old children which included 138 boys and 120 girls and their parents from diverse backgrounds who participated in a 4-year longitudinal study. There were 199 of these children had significant problems of hyperactivity and 59 children did not have behavioural problems. Criteria for all participants included no evidence of mental retardation, deafness, blindness, language delay, cerebral palsy or autism. Mothers and fathers independently completed the Disruptive Behaviour Rating Scale-Parent Version (DBRS-PV) developed by Barkley & Murphy (1998). At each time point, the interaction between children and their mother were coded during 5-minute play and clean-up tasks. Results suggested that externalising problems of hyperactivity may develop through a transactional process between parent and child functioning across the preschool years. It has been found that positive parents' verbalisation such as labelled praise, encouraging and supportive words, conveyed interests and affection in child were reduced behavioural problems in children. In addition, negative parents' verbalisation such as negative talk, criticism, and not used praise to the child predict more externalising problems of hyperactivity in children.

Another study conducted by Deater-Deckard, Wang, Chen, and Bell (2012) was to investigate the relationship between challenging child disruptive behaviour (noncompliance, anger, impulsivity) and harsh parenting. The sample included 147 mother-child dyads in which mothers age ($M=32.80$ years, $SD=6.17$) and children ($M=57.29$ months $SD=15.54$). Maternal self-reported of harsh parenting was measured using the negativity scale from the Parent Feelings Questionnaire (PFQ) (Deater-Deckard, 2000). For assessing the child disruptive behaviours, each mother also rated her child's challenging behaviours problems. The study found that child disruptive behaviour (noncompliance, anger, impulsivity) associated with higher levels of harsh negativity among mothers with poorer executive function. In contrast, for mothers with better executive function, child disruptive behaviour was not associated with maternal harsh negativity. The study found that harsh parenting were parent's negative talks, lax or even timid child management methods, low parental warmth, poor parental monitoring of the child activities both inside and outside the home and disrupted parental behaviours.

In relation to the above researches, the early childhood interventions should consist of prevention and treatment which primarily focuses on parent-child interaction. One of the interventions which primarily focus on improving the quality of parent-child interaction that can be applied among parents with ADHD children is PCIT.

Behavioural Parent Training of PCIT

Behavioural parent training has been evaluated as a treatment of children's disruptive behaviours in hundreds of studies. Most of these studies have been conducted with families of young children between 3 to 12 years of age. Studies have consistently shown behavioural parent training is effective in reducing disruptive behaviour problems, and therefore it is considered as a well-established intervention for children with ADHD (Eyberg, Nelson & Boggs, 2008; Pelham & Fabiano, 2008). The PCIT is an assessment-driven form of behavioural parent training designed for parents with preschool-aged children with disruptive behaviours. It is an empirically-supported treatment that places emphasis on improving the quality of the parent-child relationship and changing inappropriate patterns parent-child interaction (Eyberg et al. 2008). The PCIT progresses through two distinct phases: Child-Directed Interaction (CDI) and Parent-Directed Interaction (PDI). The first phase of CDI focuses on enhancing the parent-child interaction and the second phase of PDI focuses on reducing child disruptive behaviours. During CDI and PDI sessions, therapists coach parents while they interact with their children, teach them the strategies that will promote positive behaviours in children. Research has shown that, as a result of PCIT, parents learn more effective parenting techniques such as how to increase their positive verbalisation of expressing favourable judgment of an attribute, product, and behaviour of the child by praised appropriate the child behaviour occasionally. Thus, the behaviour problems of children decrease, and the quality of the parent-child interaction has improved. In the other hand, PCIT therapists will guide parents how to reduce their inappropriate verbalisations practices and avoid from giving commands, criticism or negative words regarding the child's behaviour (Bagner & Eyberg, 2007; Gallagher, 2003). The PCIT used a unique combination of counselling elements of play therapy and behavioural therapy (Counselling Directory, 2014) to address many child behaviour problems effectively.

There is a growing trend in the psychological literature describing implementation of PCIT intervention format. There are two formats of PCIT can be delivered to targeted clients, (i) the standard PCIT and (ii) the abbreviated PCIT. Traditionally, the standard PCIT is delivered in weekly one hour sessions and families' average time in treatment ranges from 12 to 14 sessions or 12 to 16 sessions (Thomas & Zimmer-Gembeck, 2012). Currently, the abbreviated or brief PCIT intervention is popular because the perception by consumers that treatment is excessively demanding has been shown to interfere with therapeutic change (Lewis, 2010). A meta-analytic study has demonstrated that early intervention programmes with fewer treatment sessions are more effective than those with a higher number of treatment sessions (Thomas & Zimmer-Gembeck, 2012). There are the evidence of the efficacy of abbreviated PCIT which consists of four to five-session treatments (Graziano, Bagner, Slavec, Hungerford, Kent, Babinski, Derefinko, and Pasalich, 2014; Lewis, 2010).

Graziano et al. (2014) conducted a study to examine the feasibility of implementing a shorter and more intensive form of PCIT to address behaviour problems in young children. The participants were 11 children (M=5) years old who displayed elevated Early Externalising Behaviour Problems (EBP) include aggression, defiance, and ADHD. Children were referred from paediatricians (36%), school personnel (28%), and self-referred (36 %). The adaptation of PCIT in the study involved changing the length of the intervention and no changes to the core skills and principles of treatment. Specifically, families attended 90-minute session, in five days a week for two weeks. Given the time-limited structure, all families received 10 total sessions. Parents reported decreased levels of child EBP and increased levels of child compliance. This brief and intensive version of PCIT was feasible and acceptable to all enrolled families with an impressive 100 % attendance rate and 0 % attrition rate. In addition, parents who completed the treatment were also highly satisfied (M=48.10) out of 50 on TAI assessment. The study indicated that parents were more willing to enrol in the brief and intensive version of PCIT. Therefore, this study employed fewer intervention sessions (7-session).

Measuring the Intervention Effect of PCIT

The therapists assess the families' PCIT intervention progress in several ways. Therapists measure the effectiveness and progressive of PCIT through CDI and PDI observation and coding. Therapists graph the score each week to monitor the child's behaviour progress towards the treatment. In CDI phase, parents are taught to follow their child's lead in play and coached to give positive attention to their child's appropriate behaviours. If the child misbehaves, parents are coached to use differential social attention and ignore the misbehaviour until it ends. In PDI phase, parents are taught to give effective commands and specific time-out procedure for highly disruptive or noncompliance child behaviour (Eyberg & Funderburk, 2011). A few studies have examined the impact of the CDI compared to the PDI on child and parent outcomes (Bagner, Rodríguez, Blake, & Rosa-Olivares, 2013).

A study conducted by Bagner et al. (2013) to examine the feasibility, acceptability, and initial outcome of a home-based adaptation of PCIT. Participants were seven mothers and their 12- to 15-month-old infants, who displayed elevated problems on a brief screener of social-emotional functioning. All families then received the intervention weekly for approximately 1-hour for an average of six sessions. During the first session, families participated in a CDI teach session in the adapted infant version. During coach session, therapist incorporated strategies relevant for the infant population. Therapist conveyed important developmental expectations for infant behaviours and described the specific effects of the parents' behaviour on the infant. Specifically, the therapist helped the parent to ignore the infant when yelling and praise the infant for being calm and quiet as soon as the infant stopped yelling. Mothers reported a significant improvement in their interactions with child at post-treatment and at 4- to 6-month follow-up. Mothers also reported clinically significant improvements in child behaviour problems at post-treatment and at follow-up. This study provided evidence for the effect of the CDI phase on improving parent and child outcomes as early as possible to improve access to an intervention for at-risk infants and their families. In addition, CDI is traditionally done first to create a positive context and lay a strong foundation for the subsequent discipline based PDI phase. However, it is suggested for situations in which out of behaviour control is the primary problem, it may be useful to start with PDI.

Research Objectives

1. To examine the effects of Parent-Child Interaction Therapy (Abbreviated Format) on the parent's verbalisation in reducing disruptive behaviours among preschool children with ADHD.
2. To determine the most types of disruptive behaviour expressed by affected preschool children with different types of ADHD diagnosis.

Methodology

Research Respondents

There were six parent-child dyads included in the study. These children were all boys who aged 6-year old attended the Special Integrated Preschool Education under Ministry of Education (MOE) in Selangor, Malaysia and they had been certified by medical doctor as having ADHD. These children were recruited from the population of 28 preschool children with ADHD as registered with Ministry of Health (MOH) in 2012 (Tin, 2013). Researcher ruled out the inclusion and exclusion criteria for parent-child dyads as the following:

Parent-Child Dyads Inclusion Criteria

The inclusion criteria for parent-child dyads included: 1) child's ages between five and six, 2) the child was certified by medical doctor as having ADHD, 3) living with participating parents, 4) at least >131 scores of ECBI and 5) the parent must be able to be contacted by therapist via telephone on a weekly basis.

Parents-Child Dyads Exclusion Criteria

The exclusion criteria for parent-child dyads included: 1) parent or child has been diagnosed with a major significant cognitive or development delay, 2) parent or child has been diagnosed with a major psychiatric illness or medical condition that impairs judgment, 3) parent unable to communicate via telephone on a weekly basis and 4) parent or child received other psychosocial treatments.

Research Design

A-B single-case experimental design was applied to systematically test the effect of PCIT throughout four different phases: 1) Baseline (A₁), 2) Intensive Treatment (B-IT), 3) Maintenance Treatment (B-MT) and 4) Follow-up (F₁). The same respondents and instruments were used repeatedly for the pre-test and post-test measurements to investigate the efficacy of behavioural parent training of PCIT on noncompliance behaviours among ADHD preschool children.

Research Instruments

For the purpose of the study, there were four instruments used as the following.

ADHD Checklist

The diagnostic interviews help to determine the degree to which a child's behavioural symptoms are consistent with DSM-5 (APA, 2013). The three presentations of ADHD in children as defined by the DSM-5 may vary considerably are ADHD-I, ADHD-HI and ADHD-C.

ECBI (Eyberg Child Behaviour Inventory)

A 36-item parent-rating scale designed to measure disruptive behaviour in children between 2 and 16 years of age (Eyberg & Pincus, 1999). The Intensity Scale was only used in this study. The raw scores cut-off for clinical significance is ≥ 131 and the T-scores cut-off for clinical significance is ≥ 60 . The higher scores (over clinical cut-off) reflect a greater concern about the child's disruptive behaviours.

DPO (Daily Parent Observation)

A checklist adapted from Lewis (2010) which helps parents to identify the most observable and problematic child behaviours that occurring daily. The DPO provides a list of 22 disruptive behaviours for which parents frequently seek help on managing their children’s behaviours.

DPICS (Dyadic Parent-Child Interaction Coding System)

A behavioural observation system designed to code the important parent-child interaction and behaviour patterns associated with ineffective parenting styles and disruptive child behaviour (Eyberg, Nelson, Duke & Boggs, 2009). The DPICS-III observations were conducted during the standard parent-child interaction situations, child-lead play (CLP) and parent-lead play (PLP) in 5-minute coding session of each situation. For the purpose of this study, two dependent variables have been coded: i) parent’s verbalisations of Do and Don’t Skills during CLP and 2) child compliance behaviours toward parental commands during PLP (Table 1).

Table 1: Individual DPICS Category Definitions

Category	Abbreviated Definition
Labelled Praise (LP)	A positive evaluation of a specific behaviour, activity or product of the child.
Reflective Statement (RF)	A declarative verbalisation with the same meaning as the child's previous verbalisation.
Behaviour Description (BD)	A non-evaluative vocalisation describing the child's activity.
Indirect Command (IC)	A suggestion for a vocal or motor behaviour to be performed that is implied or in question form.
Direct Command (DC)	A declarative statement that contains an order for a vocal or motor behaviour, identifying the child as subject.
Informative Question (IQ)	A question that requests specific information from the child other than a brief response (e.g., yes, no, maybe).
Descriptive Question (DQ)	A descriptive statement expressed in question form which requires no more than a brief or negative response.
Negative Talk (NTA)	A verbal expression of disapproval of the child or the child’s attributes, activities, products; sassy, rude or impudent speech.
Child Compliance (CO)	The child performs the requested behaviour within 5-second following the command.
Child Noncompliance (NC)	The child does not perform or attempt the requested behaviour within 5-second following the command.
No Opportunity to Comply (NOC)	The child is not given an adequate chance to comply with a command within 5-second (e.g. the command calls for vague, unobservable, or future behaviour).

Source: Adapted from Manual for the DPICS (Eyberg et al., 2009)

Data Collection

Institutional Approval

The main official ethical approval was obtained from MOE under Educational Research and Planning Division (ERAS) and District Education Office (DEO) in Selangor. Subsequently, a contact with the preschool authority was made in order to ensure the study permitted to be conducted and understood its purposes. The contacts were established with the respective headmasters and teachers to discuss the list for affected children and their parents along with the date and time to meet. Then, researcher asked for permission to meet parents and their child at home before beginning of the clinical interview.

PCIT Procedure

Based on Abbreviated Intensive PCIT format, this study involved one baseline (A₁), two intervention phases: B-IT and B-MT and one follow-up (F₁). In this study, all dyads began the baseline at the same time. The ECBI and DPO scores for all parent-child dyads showed stable baseline scores at least for three days. This was supported by Lewis (2010) that an acceptable baseline is defined as at least three days in a row when the child showed the similar scores at least three times that did not display a consistent downward trend (decline of greater than 5%). During B-IT, 2-hour intervention sessions were conducted for five consecutive weeks at the parent-child dyads’ home. Following the completion of B-IT, parents continued to be assessed in B-MT for another six weeks. The face-to-face sessions were alternated with 1-month weekly of 30-minute telephone consultations. The treatment was officially completed after parents involved in two Booster sessions (1½ hour) at the conclusion of B-MT in weeks five and six. Then, parents required completing ECBI and DPO assessments for one month until the researcher and her two coders returned to each dyad’s home for the final assessment.

Overall, there were 7-session of PCIT conducted for each parent-child dyad (refer Table 2).

Table 2: PCIT Protocol

Week	Session	Parenting Skills	Intervention Process	Assessment
A₁ (3 days)				
1	-	-	Semi-structured interview	ADHD Checklist, ECBI, DPO, DPICS
B-IT (5 weeks)				
2	1	CDI	Coaching and Coding CDI skills	ECBI, DPO, DPICS
3	2	PDI	Coaching and Coding PDI skills	ECBI, DPO, DPICS
4	3	CDI + PDI	Coaching and Coding CDI and PDI skills	ECBI, DPO, DPICS
5	4	CDI + PDI	Coaching and Coding CDI and PDI skills	ECBI, DPO, DPICS
6	5	CDI + PDI	Coaching and Coding CDI and PDI skills	ECBI, DPO, DPICS
B-MT (6 weeks)				
7-10	1 month	-	Telephone Consultation	ECBI, DPO
11	6	CDI + PDI	Coaching and Coding CDI and PDI skills	ECBI, DPO, DPICS
12	7	CDI + PDI	Coaching and Coding CDI and PDI skills	ECBI, DPO, DPICS
F₁ (5 weeks)				
13-16	1 month	-	Parents completing F ₁ assessments	ECBI, DPO
17	1 day	-	Coding CDI and PDI skills	ECBI, DPO, DPICS

Dependent Measures and Mastery Criteria

There were two dependent variables have been collected: (i) the improvement in parent's verbalisation of Do Skills and Don't Skills and (ii) the reduction of child disruptive behaviour were measured repeatedly. The direct observations of dyadic interactions were recorded using videotapes. Parent-child dyads were assessed on three occasions: 1) pre-intervention (A₁), 2) post-intervention after B-IT and B-MT and 3) post-intervention after one month treatment completed (F₁). DPICS observation in this study conducted at respondents' home but still equipped with similar materials such as one table, two chairs, one time-out chairs and toys. During the DPICS assessments, it was only one child and one parent (either father or mother) was allowed in the treatment when conducting the DPICS. Each parent was coached using a wireless earphone device. In this way, the child hears the initial directions from the parent rather than from the therapist (Eyberg et al., 2009).

Inter-rater Reliability

In order to establish the coding reliability of DPICS, two postgraduate students were trained to reach 80% accuracy with a criterion tape coded (Eyberg et al., 2009). The training involved direct instruction in the specific observation procedure and practice in coding parent-child interaction displayed in video of actual home behaviour. These data were used to calculate the specific parent and child behaviours using the intra-class correlation coefficient (ICC) based on benchmark scale developed by Gouttebauge, Wind, Kuijter, Sluiter and Frings-Dresen (2005). The ICC value of (91% to 100%) indicates a high agreement level, while ranges of values (75% to 90%) indicates a moderate level of agreement and (74% and below) indicates low agreement levels respectively. It was found that, the coding system for DPICS-III has good inter-rater reliabilities that ranged from .90 to .95 (Mean=.92) for parent behaviour codes and .91 to .92 (Mean=.91) for child behaviour codes. The validity of the DPICS-III has been demonstrated in various studies. For example, it has correctly classified 100% of normal families and 85% of treatment families (Robinson & Eyberg, 1981).

CDI Mastery Criteria

In CDI parents were taught the basic skills in recognising their children's positive qualities and coached in play time sessions to apply positive attention while ignoring negative behaviours (Harwood & Eyberg, 2006). There were two categories of parent's verbalisations observed during CDI parenting skills: the Do Skills and Don't Skills. The Do Skills include Labelled Praises (LP), Reflections (RF), and Behavioural Descriptions (BD). The Don't Skills include Information Questions (IQ), Descriptive Question (DQ), Indirect Command (IC), Direct Command (DC) and Negative Talk (NTA). The mastery criteria in CDI, parents must demonstrate at least 10 LP, 10 RF, and 10 BD, and not more than 3 totals IQ or DQ, IC or DC, and NTA (Eyberg, 1999). Praise, description and reflection are likely to lead to better communication between parent and children. It demonstrates parents' understanding and support of their children. Questioning, commands and negative talks are unlikely to be conducive to positive parent-child relationship and interaction. Children may be more reluctant to communicate if the parent questions and criticises their behaviour frequently.

PDI Mastery Criteria

In PDI parents were taught the skills in how to direct their children and they were coached in how to provide safe and effective discipline in response to disruptive behaviours (Harwood & Eyberg, 2006). In order to measure the reduction of disruptive behaviours, children were observed in their way of obeying to the parental commands. The mastery criteria for PDI at least 75% of commands must be obeyed by the child (Eyberg, 1999). The parental commands must be effective, direct, positively stated and in single command that provide an opportunity for the child to comply (Urquiza, Zebell, Timmer, McGrath, & Whitten, 2011). In this study, due to time constraint of 5-minute, parents were asked to give the total of 12 commands (Lewis, 2010). Thus, at least nine commands in a form of behaviour application must be obeyed by the child during the coding session.

Results And Discussion

A descriptive analysis was used to explore parent-child dyads including age, gender, sibling, ADHD presentation, parents’ age, level of education and yearly incomes.

Demographic Background

Based on ADHD checklist DSM-5, there were three children diagnosed with ADHD-C, two children with ADHD-HI, and one child with ADHD-I. The ADHD presentation data of these six children had been approved by medical doctors and clinical psychologist (Table 3).

Table 3: Child Respondents’ Demographic Background

Dyads	Age	Gender	Sibling	ADHD Type
1	6	Boy	No sibling	ADHD-C
2	6	Boy	1 from 3 siblings	ADHD-C
3	6	Boy	No sibling	ADHD-C
4	6	Boy	2 from 3 siblings	ADHD-HI
5	6	Boy	No sibling	ADHD-HI
6	6	Boy	2 from 2 siblings	ADHD-I

The average parents’ age was between 25 to 41 years old. Regarding the education level, most parents have a minimum of Malaysia Certificate of Education (SPM), but four of them have diploma. The yearly household income for each family was between RM25, 000 to RM45, 000. The data showed that, both parents of Dyad 6 have higher education level and yearly household income (Table 4).

Table 4: Parent Respondents’ Demographic Background

Dyads	Age		Education		Yearly Household Income
	Father	Mother	Father	Mother	
1	28	26	SPM	SPM	RM25,000
2	33	30	Diploma	SPM	RM35,000
3	36	28	SPM	Diploma	RM40,000
4	41	36	SPM	SPM	RM40,000
5	28	25	SPM	SPM	RM30,000
6	35	33	Diploma	Diploma	RM45,000

Research Questions

1. What is the effect of Parent-Child Interaction Therapy (Abbreviated Format) on parent’s verbalisation in reducing disruptive behaviours among preschool children with ADHD?

With regard to the first research question and objective on the effect of PCIT on parent’s verbalisation in reducing disruptive behaviours among ADHD preschool children, results indicated that the intervention was effective in improving parent’s verbalisation skills and reducing in child disruptive behaviours. PCIT was effective in increasing parents’ proficiency in using positive verbalisation and reducing their negative verbalisation when interacting with their child during CLP.

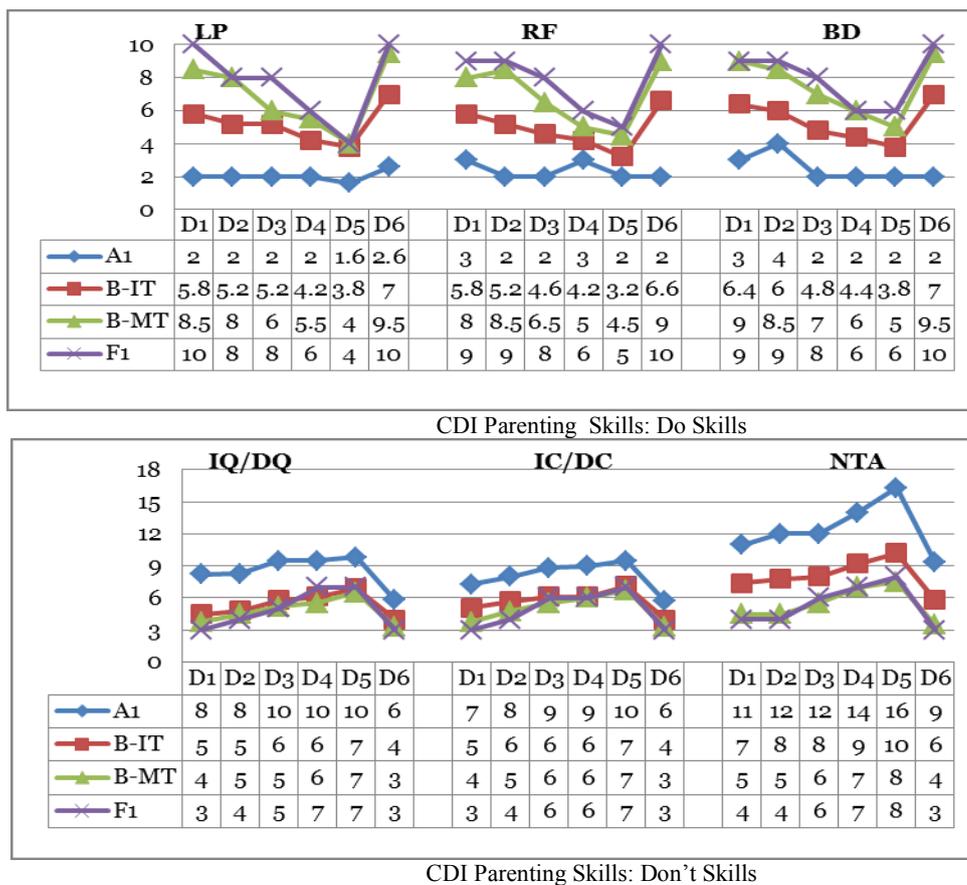
First, the findings indicated that although treatment gains varied between dyads, however, all parents displayed an improvement in their use of labelled praise, descriptive and reflective statements when interacting with their child throughout the treatment phases. Parent of Dyad 6 was the only who achieved the mastery criteria of CDI Do Skills of at least (10 LP, 10 BD, 10 RF) and Don’t Skills of at least (3 IQ/DQ, 3 IC/DC and 3 NTA).

Second, the findings indicated that, all children’s disruptive behaviours towards parental commands such as the act defiance when told do something, refuse to obey until threatened with punishment, and refuse to do chores when asked were decreased throughout the treatment phases. Thus, it was showed that the way how parents positively verbalise and interact provided the opportunity for children to improve their behaviours. Parent of Dyad 6 was the only who achieved the mastery criteria of PDI skills of at least 9 commands have been obeyed by the child.

These results consistent with the statement made by Wagner and McNeil (2008) that child compliance with a command is immediately followed by positive verbalisation such as a labelled praise from the parent, thus, positively reinforcing the compliance behaviour. Overall, based on CDI parenting skills taught, the findings indicated that parents were improved in their positive verbalisation skills by remained increased in their Do Skills scores from baseline to follow-up (refer to Figures 1 and 2).

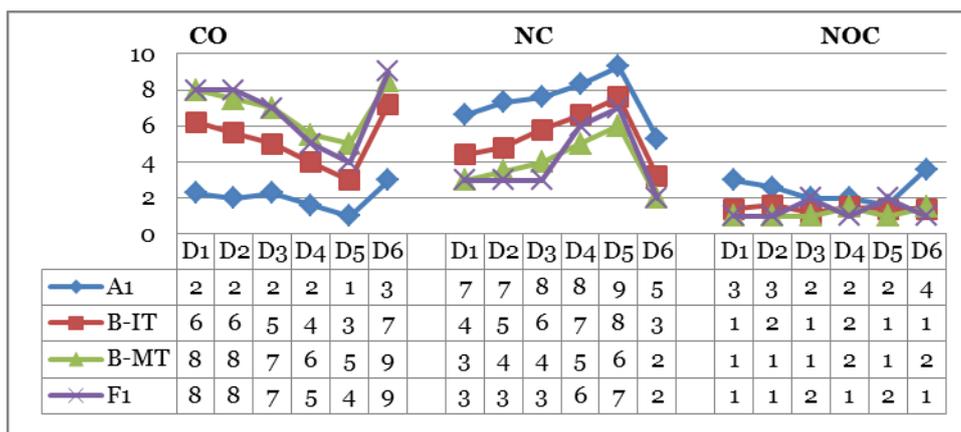
Therefore, the study indicated when comparing the outcomes between pre-intervention and post-intervention, most parents reducing their inappropriate verbalisations practices and avoided from giving commands, criticism or negative words regarding the child's behaviour and play ideas. Parents also showed improvement in how to praise the child for being compliance. The finding of the current study is consistent with the research conducted by Wagner and McNeil (2008) in which parents showed greater improvement in their interactions with the child when they used positive verbalisation and labelled praises to reinforce the child positive behaviour. Overall, the findings of the study indicated that PCIT was effective in increasing parents' proficiency in using positive verbalisation and reducing their negative verbalisation when interacting with their child.

Figure 1: Mean Comparison in CDI Scores between A1, B-IT, B-MT and F1



As expected, parent's verbalisation and child compliance behaviour toward parental command have improved over the course of treatment. As for time-delayed effects, results showed that there was a difference in stage of change in the post-tests between B-IT and B-MT with F1. The study indicated when comparing the outcomes between pre-intervention and post-intervention, most parents increased their proficiency of in giving appropriate commands that were clear, single and positively stated which provide an opportunity for the child to comply. These results consistent with the statement made by Wagner and McNeil (2008) that child compliance with a command is immediately followed by a praises from the parent, thus, positively reinforcing the compliance. It has been observed during coding segment, parents were increased in their using of labelled praise after the child kept on performing the commands. For noncompliance towards the command, parents basically issued a warning and allowed for 5-second for the child to perform the commands. The results indicated that PCIT was effective in increasing parents' proficiency in giving effective commands when interacting with their child during parent led the play session. Overall, the findings of the study indicated that PCIT was effective in increasing parents' proficiency in giving effective commands when interacting with their child.

Figure 2: Mean Comparison in PDI Scores between A1, B-IT, B-MT and F1



2. What are the most types of disruptive behaviour showed by affected preschool children with different types of ADHD diagnosis?

With regard to the second research question, first, the result found that based on 22 disruptive behaviours, there were five types considered as the most problematic. These five types of disruptive behaviours have been endorsed and identified by most parents in their child were, the act defiance when told do something (66.6%), refuse to obey until threatened with punishment (46.6%), refuse to do chores when asked (40%), get angry when does not get own way (33.3%), and argue with parents about rules (26.6%).

Second, the findings agreed with National Institute of Mental Health (NIMH) (1999) statement in which children with ADHD-HI show more aggressive behaviours as compared to children with ADHD-I that are tend to be more withdrawn and they are less disruptive, while children ADHD-C may show both inattention and hyperactivity-impulsivity. Dyads 4 and 5 (ADHD-HI) were increased in their mean DPO scores during the final phase of F₁ than B-MT as compared to other dyads.

The Dyad 5 was the highest in DPO mean scores of noncompliance behaviour and based on parent's report and researcher observation, the study found that, he was the most aggressive child who displayed an aggressive behaviour. It appeared that the impulsivity and over activity in Dyad 5 (ADHD-HI) has increased the risk for the conflict interactions with parents which tends to develop his disruptive behaviours. Throughout post-intervention, the DPO mean scores of Dyad 5 remained lower than his respective scores in baseline. Overall, the findings of the study indicated that PCIT was effective in reducing noncompliance behaviour in those ADHD children which their mean DPO scores during the F₁ remained lower than their respective mean DPO scores during A₁ assessment.

The current study found evidence that emerged from the DPO assessment data with regards to the relationship between ADHD presentations in children with their noncompliance compliance behaviours. The three presentations: (i) ADHD-C was Dyads 1, 2 and 3, (ii) ADHD-HI was Dyads 4 and 5 and (iii) ADHD-I was Dyad 6. The findings agreed with NIMH (1999) statement in which children with ADHD-HI show more aggressive behaviours as compared to children with ADHD-I that are tend to be more withdrawn and they are less disruptive, while children ADHD-C may show both inattention and hyperactivity-impulsivity. Dyads 4 and 5 (ADHD-HI) were increased in their mean DPO scores during the final phase of F₁ than B-MT as compared to other dyads. The findings also consistent with statement made by Barkley (2012) in which active resistance to direction or defiant can be used for many instances of noncompliance behaviour where the child not only fails to obey a directive or rule, but also displays active verbal or physical resistance to comply with such parental directives. For examples, when the child imposes to parents' direction or commands he does not like, the child engages in verbal refusal, temper outbursts and even physically aggressing against parent. Dyad 5 was the highest in DPO mean scores of noncompliance behaviour and based on parent's report and researcher observation, the study found that, he was the most aggressive child who displayed an aggressive behaviour. It appeared that the impulsivity and over activity in Dyad 5 (ADHD-HI) has increased the risk for the conflict interactions with parents which tends to develop his noncompliance behaviours.

Conclusion

The PCIT has been shown to be an effective approach to improve disruptive behaviours among ADHD children. Similar results came from studies to explore the effectiveness of PCIT as a behavioural parent training in places such as Asian ethnic group (Tsang et al., 2007) and Latino and Mexican Americans (McCabe, Yeh, Lau & Argote, 2012). As a growing practice in Malaysia, behavioural parent training like PCIT is essential for helping children with disruptive behavioural disorders. The findings of the study indicated that PCIT was effective in increasing parents' proficiency in using positive verbalisation and reducing their negative verbalisation when interacting with their child during child led the play session. The findings of the study also indicated that PCIT was effective in increasing parents' proficiency in giving effective commands when interacting with their child during parent led the play session. Furthermore, this study demonstrated that PCIT can significantly help parents to improve their positive verbalisation practices by increasing parents' proficiency in using praise, descriptive and reflective statements and in giving effective in a single stated of commands when interact with their child. Parents increased their

verbalisations of expressing favourable judgment of an attribute; product and behaviour of the child by praised appropriate the child behaviour occasionally. Parents were also increased in their verbalisations of reflective statements that have the same meaning with child verbalisations by repeating with some elaboration on what the child has just said. For declarative statements, parents were also increased their verbalisation of the child's specific play activities with toy materials. In addition, PCIT also help parents to reduce inappropriate or negative verbalisation by decreased in use of criticisms, negative talks, commands and too much questions. Parents reduced their inappropriate verbalisations and avoided from criticising or negative words toward the child's behaviour and play ideas. This study was to provide valuable information and guidelines among mental health professional and practitioners in terms of future designing of family-centred treatment approach that adaptable to Malaysian culture. Therefore, parenting module as one of the early childhood interventions that based on the PCIT was recommended to improve positive parenting practices in rearing the problematic children.

For future recommendation, in order to have a more complete understanding of the efficacy of PCIT, the future research could include the different independent variables. Some the different variables are parent's self-efficacy, parent's attitude toward the child, parent's parenting style and parent's empathy that may decrease child's level of aggression or noncompliance. Moreover, this study had adopted A-B single-case experimental design. Future research should adopt a true experimental research design using random assignment of samples as well as a larger sample size to enhance the generalisability of the research findings. To use random sampling, thus, the target population should be beyond the ADHD children such as children with autism or abused physically by parents and it can be any type of disruptive behaviours. Future studies might want to use pre-test post-test control group design that allows for the use of Analysis of Covariance (ANCOVA) to uncover more precise differential effects of the PCIT delivery modes and methods between experimental and control groups. Instead of differential analysis, the inferential analysis can be applied in which the pre-test scores will be used as a covariate to make adjustments for any initial differences that might exist among the experimental and control groups. Coupled with randomisation of samples, the study design would be strengthened.

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