

# PARENT INTEGRATED THERAPY APPROACH (PITA) AS A TREATMENT FOR A CHILD WITH AUTISTIC SPECTRUM DISORDER (ASD): A CASE STUDY

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### Abstract

**Background:** This study was conducted on a 3-year-old boy with autism spectrum disorder (ASD) with average compliance and average perceptive language skills. Delayed developmental milestones observed and concerned. **Case Presentation:** The case was started on May 2014 and intensive therapy was provided for a period of 11 months. Then, monitoring of case was done for about 5 years till December 2019. The intervention plan was an integrated approach of Psychologist, Speech Language Pathologist, and Physiotherapist and Sensory integration specialist and mainly inclusive of parents in treatment protocol. Acknowledging the importance of parents in therapy, Parents integrated protocol was included which was a new advanced therapy. **Results:** There is no scientific evidence of this approach – a positive outcome and a notable success – intervention – (1) reduced stress levels and economical struggle for parents and reduced anxiety in child. (2) Improve child-parent relationship and developing home environment into therapy-based atmosphere. (3) Educating parents to improve their compliance over the difficulties of child and able to help them in supporting the daily activities. (4) Ability to face the social disturbances and balance their emotions to face obstacles. **Conclusion:** The findings suggest that Parent Integrated Therapy Approach (PITA) with the help of didactic teaching therapy impacts child development in more advanced manner and more chances of child approaching to normal schooling.

**Keywords:** ASD, Anxiety, Delayed Developmental Milestones, Stress, Compliance, Social Disturbances, Emotions.

## 1. INTRODUCTION

The multidisciplinary framed protocol of a child with autistic spectrum disorder (ASD) along with parents has been recognised (1, 2). Autism is concerned with many deficits as motor and sensory, communication and most importantly psychological aspects like behavioural disturbances, lack of social skills and emotional skills (3). Teaching parents about the strategies to implement at home to understand and improve adjustments to the behavioural outcomes of child (4). Increasing activity time by practising techniques at home. Balancing the financial burden on parents and provide them confidence to overcome the social struggles (5).

Focusing on parent-child relationship in home environment develops the bonding between them and helps in developing skills related to motor, speech, daily activities and other sensory related issues (3). This bonding also helps in developing cognitive and social skills in child. This is a delicate approach which helps in building up a secure environment with parental attention and support, regulating child joint and sustained attention improvements and sitting tolerance development. This ultimately helps in developing skills which are lagging and tend to build up an emotional bond between parent and child. Didactic teaching therapy with parents helps in progressing child in all aspects (6).

Parents are always play major role in child's growth and development and no one can know better about a child than parents (3). Parents with disabled child faces lot of psychological issues and many studies have proven about it (7). Providing proper psychological counselling for parents and building up confidence emotionally in them helps in following the protocol actively in therapy of child. This also helps them to face social pressures and disturbances wisely. Even this program helps parents to compensate their financial burdens as it is major concern for many parents with autistic child (8).

Including parents by giving adequate information about ASD and their role in rendering child helps in therapy to be in pace. PITA program is designed to incorporate parents in therapy for over a period of 11 months, to overcome the anxiety and stress and voluntarily involved in activity-based protocol. This program also helps them to identify the behaviours and able to manage them with ease.

The symptoms of Autism are with behavioural changes of child when tend to mingle with others and to build connections with people (9). Kannan (9) observed that development in autistic kids have trouble in using communicative gestures than other typically developed kids. Language ability delay is noticed which in turn relates to verbal or non-verbal communication because of gestural development and delay in pointing tends to lead to early red flags of autism (10,11). In LeBarton and Iverson's study (11), early intervention is right choice to overcome language delay in ASD as early signs of lack of pointing leads to non-verbal communication.

Importantly, behaviour modification helps in attaining many skills like communication, social, emotional by controlling emotions and restricted behaviours (12,13). The findings in Berkovits et al.'s study (12) supports the concept of theory of mind (ToM), in which it helps in developing the ability to understand social situations and other persons emotions and beliefs to interact with peer group by improving social communication skills in Autistic kid (14,15).

Facial expressions also play a crucial role in retaining memory (16), and this ability of understanding facial expression and emotion has importance in social developments of Autistic kid (17,18). Parent's involvement in therapy is not new for autistic kid but providing emotional support and understanding the difficulties of their child by overcoming their stress relating to financial burden definitely led them to actively participate in the

program. As they receive moral and psychological support from this program and this program improved the parent-child relationship.

## 2. CASE REPORT AND METHODOLOGY

**Purpose:** The purpose of study was to provide parents didactic training regarding the protocol with psychoeducation. This will help them to overcome financial burdens, reduce their stress levels and anxiety. PITA program helps them in actively participating in therapy program at centre and by their involvement with kid also develops parent child relationship.

**Case Context:** Case study of a 3 years old boy diagnosed with Autism Spectrum Disorder. With the help of M-CHAT and CARS, he was diagnosed with level 2 Autism according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). He has shown up with some basic communication skills – as he was verbal and has average perceptive language skills. By observation, it is keen that boy was having good compliance so that it is easy to follow a protocol which was designed. He shows some repetitive behaviours and also has delay in many skills like motor skills, communication skills, social and emotional skills. Eye contact and social interaction was challenging. Child was recommended for multi-disciplinary intensive therapy for the development delays. Parents are educated and father is a private employee and mother is housewife. Parents of child were educated and assessed with moderate to severe anxiety levels according to GAD-7 and stress levels are moderate with Perceived Stress Scale (PSS).

The case study is presented to illustrate the details of protocol followed for a 3-year-old boy with Autistic Spectrum Disorder. The protocol is divided into 2 parts in which both parts are integrated side by side. 1<sup>st</sup> part of Protocol is with psychologist along with physiotherapist, sensory therapist and speech language pathologist. 2<sup>nd</sup> part of Protocol is with Psychologist along with parents. The protocol followed for a period of 11 months and observed the changes in motor, speech, social and emotional skills along with cognitive and behavioural outcomes. After course, child was monitored for a period of 5 years with assessment after 2 years.

**Parental Education and Counselling Plan:** It is observed that parents with Autistic child reported high levels of anxiety and stress with regard to their financial burdens and negative emotions confined to them as parents blame themselves for the diagnosis of child. In order to support parents to overcome their psychological status and manage their emotional outburst, parents are involved in this program which benefits them and also the child. Parents are provided with 1 hour therapy-based counselling and psychoeducation every month on 1<sup>st</sup> Wednesday for a period of 11 months. The concerns of parents are taken into priority in providing psychoeducation. Equal importance is given to parents in managing protocol and training provided to identify and deal with the repetitive behaviours. With this program, parents are learning about the difficulties of child and manage to help child with proper techniques.

## Patient Case Description

Patient history: Case was about a boy who was only child for parents and was no complications at birth. Till 6 months, child was normal developmental milestones. There was delay observed after 6 months in crawling, child was able to stand with minimal support by the age of 18 months. Child started babbling at the age of 12 months and by 18 months child tries to communicate by using gestures. By age 30 months, he started using child was able to use simple words and able to follow basic commands. Child was taken for consultation to child psychologist where he was diagnosed with autism spectrum disorder by M-chat (Modified Checklist for Autism in Toddlers) and Childhood Autism Rating Scale (CARS). He exhibited signs like delayed motor milestones, poor eye contact, lack of social skills, communication skills like unusual way of expressing with low grade level of emotions. He was unable to point, poor eye contact with poor attention and sitting tolerance. According to clinical psychologist report, he exhibits inappropriate social behaviours like unresponsiveness and difficult in emotion recognition and challenging time to social interaction with peer group with limited communication. According to Speech Language Pathologist diagnosis, Receptive and Expressive vocabulary test (REVT), Speech Mechanism Screening Test (SMST) were done – child had delay in general language ability, unresponsiveness and expressions. Hence, recommended for speech therapy along with behavioural modification.

**Approach Description:** Parent Integrated Therapy Approach (PITA) was chosen as appropriate therapy for a kid who have the ability to follow commands and rules. The design of PITA program is activity-based protocol for parents which includes them in therapy sessions of child for about 2 hours in a month for a period of 11 months. This 2-hour session period is divided into 4 parts. 30 minutes of motor and sensory protocol, 30 minutes of speech development protocol and 60 minutes of psychological based protocol in which counselling for parents were conducted with proper explanation of child's possible behavioural outcomes. Remaining days in a month, child will be taken in to a program of 2 hours individual therapy and 1 hour of group therapy so that child will get the opportunity to mingle with peer group and develop his social skills. This program is proper tailor-made activity-based protocol and parent's queries will be clarified regularly as scheduled. Short term goals are set for the child for active participation of both child and parent initially which was upgraded and targeted to long term settings. Continuous monitoring of PITA program is observed through videos of activity time and any changes in behaviour observed during program has to be noted and should be reported to concern psychologist. Every month last Saturday, parents should report the progress of child in given targets and any notable behavioural outcomes. Every 1<sup>st</sup> Wednesday of week, parents should report the centre with child for new protocol session for about 2 hours. In this program, not only therapy for child is designed but also helps parents to overcome the psychological stress and financial struggle.

### 3. RESULTS

Initially, child was giving occasionally eye contact and able to recognise only parents and labelling them with repetitive words. He was unable to recognise and express emotions. But vocabulary was very poor and it takes time for child to interact with another peer group and therapist. After introducing PITA, child slowly started interacting with therapist and started grasping activities like sand play, clay moulding, step up and step-down activities, etc., He started showing interest in peer group and participated in group activities and started mingling with peer group.

After 3 months of PITA program, child and parents develop the confidence in following the protocol and able to perform activities with ease. Child develops emotional recognition on self and towards parents with the help of flash cards. Child started receptive language and able to perform gross and fine motor skills. Started performing his own daily activities with less dependence. Started actively participating with group activities and able to communicate to peer group.



**Figure: Child Initiated Finger Painting**

After 6 months of PITA program, parents actively participated in program and following protocol with ease. It was reported that the parent child relation developed in following the program. It is also noted that the stress and anxiety levels is also reduced in parents and confidence build up in parents. Improvements in child were remarked as gross and

fine motor skills were age appropriate and receptive and expressive speech was improved far better. Still need to get better in communication. Even sensory issues have been sorted off and parents and child are able to manage the difficulties. Child emotional understanding developed as he was able to recognise peer emotions as well along with his personal.



**Figure: Motor Activities – Gross and Fine**

After 8 months of PITA program, parents achieved the capacity to observe the behavioural outcomes and able to manage them by their own methods. Repetitive behaviours reduced. Child is able to socialise with the peer group and actively participate in group activity along with them. He follows the commands of the therapist and psychologist with perfection and able to correlate with the activities performed by him. According to the speech language pathologist, child has to be practiced with pretend play associated with new vocabulary so that he will try to learn usage of vocabulary in daily routine. Psychologists suggest that child social skills and emotional skills have been developed compared to previous assessment and advised to monitor on behavioural outcomes during the session and home program.



**Figure: Pretend Play**

At the end of 11 months of PITA program, child developed the ability to recognise and express his own emotions along with parents and peer group and tries to reciprocate. Improved expressive language and receptive language up to his age-appropriate level along with motor skills. PITA program helps child and parents to overcome challenges faced by them proactively. Now child is able to learn few writing skills and can cope up with the commands given by teachers in school during the admission process of child for Nursery.

**Follow up:** After 11 months of PITA program, child was continuously monitored for the span of 5 years. An assessment was done by psychologist in between the period in 2017. It was shown that child was not displaying any symptoms of autism and his social skills are improved. There is no sign of regression in these 3 years after PITA program. He was attending normal schooling with good academic performance with very minimal understanding issues which are considered to be normal and these issues are solved by parents' involvement or with the help of shadow teacher for a period of 1 year during their kindergarten period. He entered into 1<sup>st</sup> standard and detailed report on December 2019 was noted with child attending regular school program and also participating in extra-curricular activities and sports activities along with peer group. His academic performance is appreciated and reported that he excelled in drawing skills where he will express his emotions and label it with pictures drawn by him.



**Figure: Drawing and Craftwork**

#### **4. DISCUSSION**

Many researches have shown the importance of mother role in therapy and its importance in development of autistic child (1, 2, 19). According to Zaghlawan and Ostrosky, Home strategies with parents using blocks and balls help in initiating the imitation skills in kid (20). Moreover, imitation is learned through social interactions with other and also helps in communication skills (21).

Training parents and guiding them helped in attaining compliance and helps in empowering both parent and child at same time to develop self -efficacy (22). Providing parental education to promote child's development (23). Not only in development but also helps in managing behavioural problems in child (24). Emotional recognition is compromised in autistic kids and its development helps to build affect and affective connection in them (9).

Initial sessions are filled with sensory materials and activities like water play, sand play, play dough. Flash cards are used repeatedly and promptly as a mode of communication and expression of the emotions during sessions as well as home-based activity during initial days. Materials chosen depends upon the criteria based on the development of targeted goal.

Slowly self-initiation from child is observed for choosing materials, flash cards for expressing emotions and communication. It even progressed to label the emotions and by use of vocabulary expressing his needs to parents and therapist at the centre. Verbal expression for his emotions and peer group is achieved after 8 months of PITA program. Finally at the end of program, he attained three systems -making, perceiving and feeling.

## **5. CONCLUSION**

Although, PITA program has no add scientific value, the treatment outcomes are notable. Child improved in all aspects. It is observed that PITA program is well designed and the outcomes after the program is well remarkable to observe child with strong emotions and socially adjusting to circumstances. PITA program helps the parents and child to develop joint attention and sustained attention as parents are a part of program and spending qualitative time with their child. Proper protocol followed by parents and monitored by the therapist with keen observation on the behavioural outcomes as challenging behaviours are main concern for autism. This program elaborates the difficulties faced by autistic kid and explains parents about the challenges faced by their kid. So, it is easy for parents to observe the behaviours of child and noted down the difficulties and report to the psychologists and therapist at regular time.

This program also helped parents to create the home environment into activity model for child which he enjoys and able to spend time with parents for the same. By improving the parent child relationship also helps to develop bond between them emotionally. This emotional development ultimately helps in developing the child's social skills in which he develops the ability to grasp the emotions of peer group during activity period.

PITA program is tailormade depending upon the difficulties and symptoms of Autistic child as to improve in all the skills like gross and fine motor, language development, emotional and social skills with regard to the development age level of the child. The protocol is followed with the help of activities designed with flash cards, story cards, play dough, beads, sand play, water play, messy play, water colours, stickers, soap bubbles. Different activities designed along with these items in attractive way so that activity time will be playful for the child and both parents and child enjoy the floor time.



Compliance of parents is improved and the stress and anxiety levels reduced as they understood the difficulties of their child and able to support him for the same.

## 6. TABLES

Table 1: Treatment Plan and Goals

Table 2: Parental Education and Counselling Plan for Pita Program

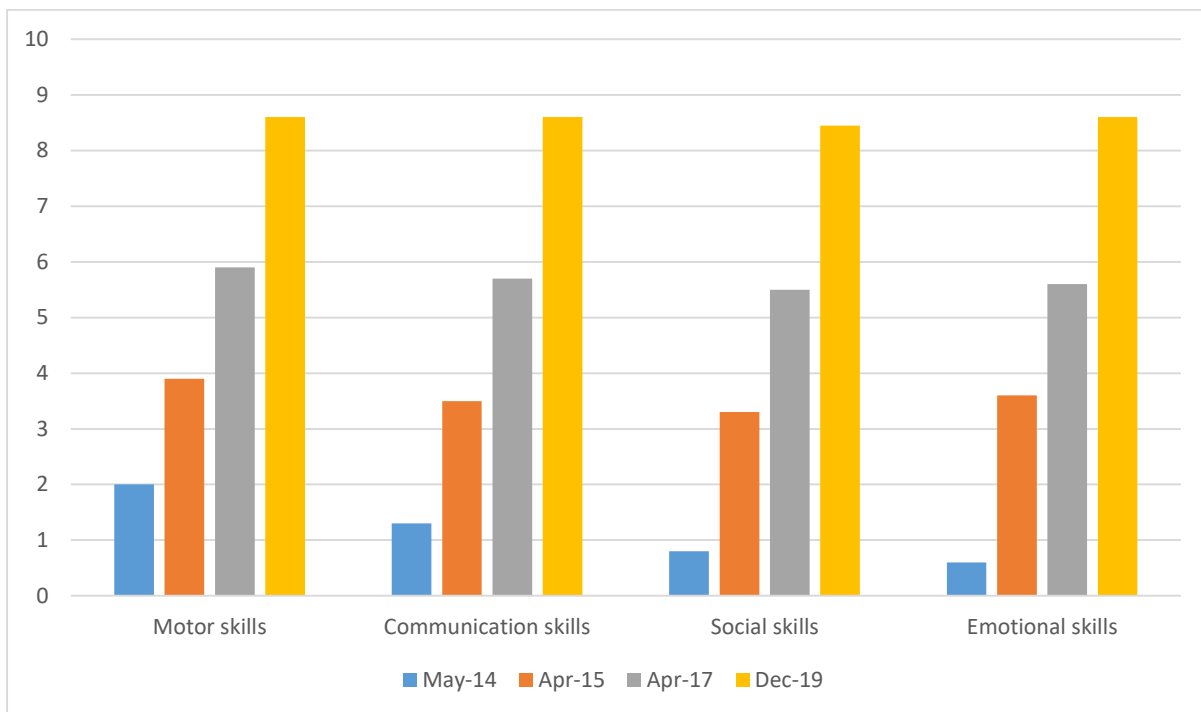
Chart 1: Development in Skills across Program Period

**Table 1: Treatment Plan and Goals**

NO	PROBLEM	SHORT-TERM GOAL	LONG-TERM GOAL	INTERVENTIONS
1	Motor and Sensory issues	<ol style="list-style-type: none"> <li>1. Build motor-based activities.</li> <li>2. To strengthen lower limb muscles</li> <li>3. To get coordination between brain and hand.</li> </ol>	Gross and fine motor skills age-appropriate	<ol style="list-style-type: none"> <li>1. By using play dough, stacks crayons teach proper usage.</li> <li>2. Coins and beads picking to acquire grip</li> <li>3. Step up and Step-down activities.</li> <li>4. Parental education on importance of motor and sensory skills in development.</li> </ol>
2.	Language delay	<ol style="list-style-type: none"> <li>1. Build verbal expression</li> <li>2. Practice intonation and pronunciation</li> </ol>	Communication	<ol style="list-style-type: none"> <li>1. Parental education regarding communication using stories.</li> <li>2. Activities based on initiating verbal skills like talking book</li> <li>3. Use of pictures for communication</li> </ol>
3.	Restricted Behaviours	<ol style="list-style-type: none"> <li>1. Alter Behavioural responses with the help of emotions</li> <li>2. Build self-regularization pattern.</li> </ol>	Emotional recognition and regularization	<ol style="list-style-type: none"> <li>1. Parental education on identifying and learning behaviour patterns</li> <li>2. Parental education for reshaping behaviours</li> </ol>
4.	Lack of socialization and interactions	<ol style="list-style-type: none"> <li>1. Include child in group activities</li> <li>2. Meet different people around</li> <li>3. Build social interactions</li> </ol>	Emotional and social interactions	<ol style="list-style-type: none"> <li>1. Learn self-emotional status along with others</li> <li>2. Initiate peer responses and create comfort zone with them</li> <li>3. Parental education on importance of repeated visits to parks, malls etc.,</li> </ol>
5.	Sleeping disturbance	<ol style="list-style-type: none"> <li>1. Change sleep patterns</li> <li>2. Ease anxiety.</li> </ol>	Regulate Anxiety	<ol style="list-style-type: none"> <li>1. Build new sleep patterns based on schedule</li> <li>2. Draw about dreams</li> <li>3. Parental education on building sleep environment.</li> </ol>

**Table 2: Parental Education and Counselling Plan for PITA Program**

Month	Topic – Psychoeducation	Counselling
1,2,3	Providing information about ASD and difficulties of child in performing activities	Clear explanation of situation of child and providing proper help in dealing with child and sleep disturbances
4,5,6	Importance of active involvement of parents	Relieving anxiety and tensions
7,8,9	Importance of social and emotional development in child’s development	Clearing doubts of parents and encourage them to make child socialise with others
10,11	Monitoring child’s behaviour	Explanation of possible behavioural outcomes and teach them ways to overcome those behaviours.



**Figure 1 : Development across Age over a Period of 6 Years**

**DATA AVAILABILITY**

All data underlying the results are available as part of the article and no additional source data are required.

**CONSENT**

Written informed consent for publication of their clinical details and clinical images was obtained from the parents of patient.

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