

Case study: identification of areas of success in an aba based intervention implemented by a mother of a child with ASD

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Abstract

Over the past 15 years there has been a dramatic increase in the incidence of autism. In 2014 the American Autism and Developmental Disabilities Monitoring Network reported estimated prevalence rates for Autism Spectrum Disorder (ASD) to be 1 in 68. This group of children and their families have important service needs. The considerable amount of time and cost involved in providing appropriate interventions, suggest the parent training and involvement as a particularly appealing intervention option. The involvement of parents in implementing intervention strategies designed to help their autistic children has long been accepted as helpful. Different kinds of training methods available to parents have provided positive intervention outcomes. The present article is a case study on a mother of a child with autism implemented intervention. This case study shows which are the areas of success and of negative outcomes for the mother implemented intervention and then compares the same areas with the results achieved by the therapist. The goal is to modestly come with new suggestions to be included in parent training methods.

Keywords: *Autism Spectrum Disorders, parent implemented intervention, parent training*

1. Introduction

ASD is a neurodevelopment disorder. Studies show that each year the incidence of autism has increased more. According to the DSM V, the two main deficiencies regarding autism identifications include difficulties in communication and building relationship, and repetitive behaviors or limited interest. Co-occurring disorders such as intellectual disability, seizures, challenging behaviors and co-morbid psychopathology are common as well. (Hartley, Sikora, &McCoy, 2008; Matson, Dempsey, LoVullo, & Wilkins, 2008a). ASD is a lifespan condition. (Szatmari, Bryson, Boyle, Streiner, & Duku, 2003).

Tremendous strides have been made in the treatment of ASD in recent years. The focus on psychological interventions have had particular role in treating ASD. Intensive behavioral intervention based on Applied Behaviour Analysis (ABA) is considered to be the treatment of choice for children with autism (NYSDOH, 1999; Tews, 2007). Among these interventions,

Early Intensive Behavioral Intervention (E-IBI) can prove to be very important and effective in modifying or eliminating many of the most serious symptoms of ASD population. (Ben Itzchak, Lahat, Burgin, & Zachor, 2008, Matson & Smith, 2008).

The amount of time and cost involved in providing these interventions are enormous. Given these facts, the parent training and involvement is a particularly important intervention option.

The involvement of parents of children with ASD in the treatment and possibly at an early age has been researched and suggested since years. (Lovaas, Koegel, Simmons, & Long, 1973). Training parents and other caregivers of young children with autism to implement treatment has been identified as a potential way to improve access to evidence-interventions during the critical early years (Burrell and Borrego, 2012; McConachie and Diggle, 2007;). Despite the general consensus on parent implemented intervention as a potential option, there are other studies that call for prudent attention. A recent meta-analysis comparing studies of parent- and clinician-implemented interventions for children with autism found significantly greater improvements in clinician-implemented studies with small to no effects in parent-implemented studies (Nahmias and Mandell, 2014). The reasons of such findings could be different, e.g., training level of parents, stress of parents related to ASD and to the personality traits of the parents themselves, financial difficulties, lack of time, etc. Beside the above factors, it might be interesting to explore what are the areas that show positive outcomes and no or small change during the intervention implemented by the mother of the child with ASD and the reasons related to it.

2. Method

The article focuses on the results of a case study on the staff and parent involvement in autism treatment of one child female aged 4 years 2 months at the time of this study. The idea is to identify what are the areas that the mother implemented intervention are successful and not successful when compared to the therapist results. The child had been diagnosed with ASD. She was attending the kindergarten but the outcome was just the girl being present in the setting. She was not benefiting neither educational nor other kind of service. The girl started to receive behavioral intervention in clinic setting. The system employs the technologies of Applied Behavior Analysis and Verbal Behavior to teach small, measure units of behavior and language systematically. After a period of 6 months of behavioral intervention in clinic setting, the clinic staff proposed to the mother of the child to be involved in the treatment. The mother would be involved in Early Intensive Behavior Treatment and in Problem Behaviors. Additionally parent involvement (mother) in clinic (45 min) and in home setting (45 min) was introduced than, targeting the replication and generalization of the above.

2.1 Data collection

Data was collected during interventions performed by both clinic staff and the mother of the child. Target goals were the same for the staff and parent involved in the treatment. The goals were seen divided in two domains: first domain was acquisition of language and academic skills, self –help

skills, social and play skills, class instruction and group instruction and first/then rule. These domain targets were tracked on monthly basis over 6 trials per goal per one hour session. The trials results were marked on every day basis as independent or prompted with type of prompt used being designated. The trails results that show an interesting difference between mother and therapist only were plotted using a graph tracking multiple data points. More specifically, the measured trials were: Language acquisition starting from vocal imitation, requesting and intraverbals, following the commands, play skills and first/then rule – all were then plotted on graphs as to percentage of successful trials per data tracking session. 6 Graphs represent a comparison of staff and mother's intervention results in this first domain.

The second domain was Problem Behavior. ABC data collection form was used to track functional behaviors on monthly basis over the number of nonfunctional behaviors demonstrated per one session. The non functional behaviors or Problem Behaviors targeted were auto-aggression and beating against the floor. Graph 7 and 8 on this other domain will be presenting a comparison of the results of intervention implemented by the staff and the mother of the child.

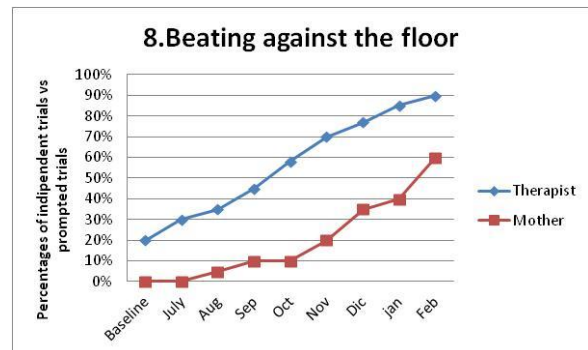
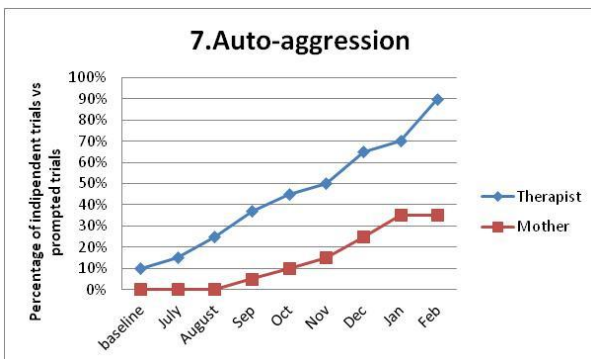
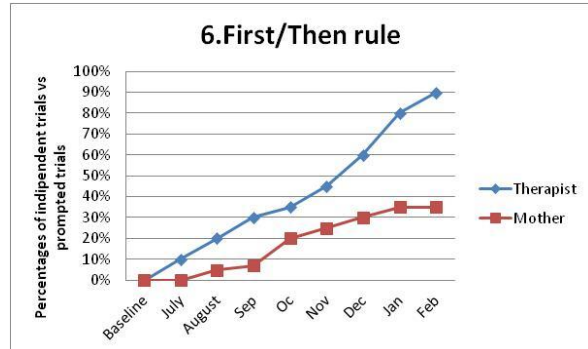
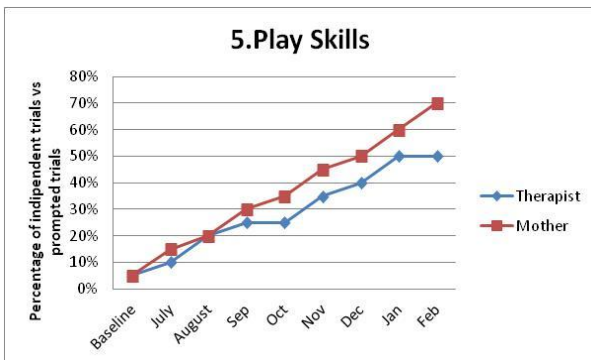
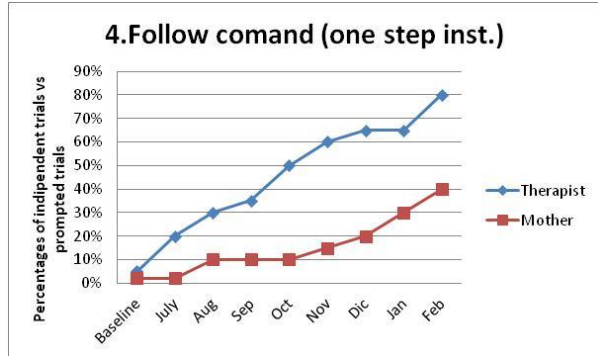
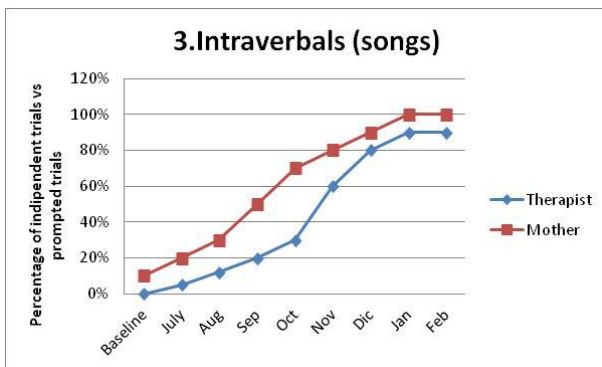
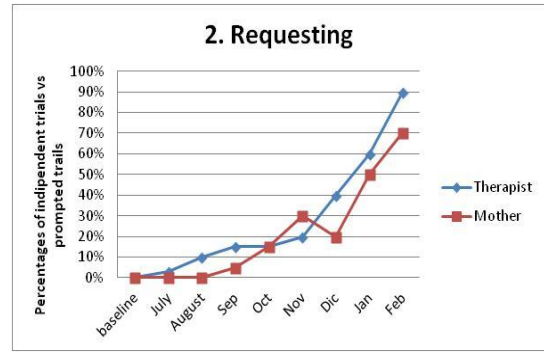
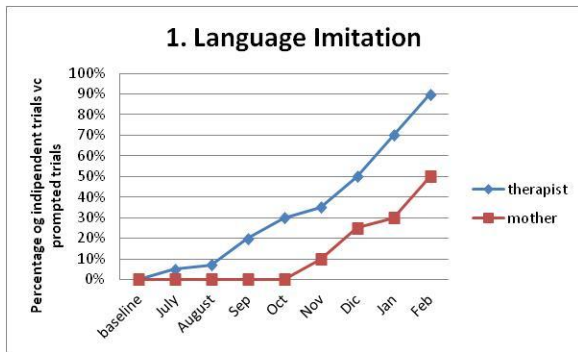
3. Presenting problems

A mother of a child (girl) with autism has been implementing the ABA-VB based intervention for her daughter for duration of time that is 8 months. No special training was developed for the mother except hands-on technique.

The child received ABA at 1 year and 10 months. At the time of first assessment the girl was not attending any crèches or any state institution. She was not verbal, no imitation skills were present, she wouldn't turn when calling her name, she had no interest for toys of her age, no pointing, and no presence of receptive level. Stereotypes like moving around, emitting wired voices, movements of hands and goofy walking were present. She had no self-help skills, the play was immature and little imaginative play was present. Challenging and non functional behaviors at apparently no reason were present as well.

The mother of the child was very interested to learn as much as possible on how to acquire the necessity skills to better help her child with the intervention. During the first sixth months of the clinic based intervention, the mother was present in every therapy hour. A common decision taken by the clinic staff and the mother of the child on initiating additional therapy hours carried by the mother under close supervision of the clinic was very natural at this stage. Therapeutic goal, data recording and results tracking were the same for both staff and parent. Therapeutic Goal was to increase skills in imitation, language, play and socialization, academic skills while decreasing challenging behaviors. The overall Goal was to identify which are the areas that a parent can successfully work on and the areas that represent more difficulties and the trend of the progress.

The graphs below presents the results of interventions implemented by the staff and by the mother. The data was tracked on daily basis and then graphed for the 8 months of duration.



4. Summary of Changes

The changes will be seen in two subjects: the child with ASD and the mother.

The child progress was assessed 8 months after attending the kindergarten. The data collected on monthly basis using the Catalyst Data Collection Platform was utilized to determine the amount of progress toward goals 1 and 2. There are 8 areas scored: Language Imitation, Requests, Intraverbals, Follow Command (one step instruction), Play Skills, First/Than Rule, Auto-aggression, Beating against the Floor. In all of the areas the initial baseline scored 0 and then considerable amount of progress is being scored. The child acquisition of new skills and reduction of problem behaviors is seen as a result of treatment implemented by clinic staff and the mother of the child as well. There was one aide who assisted the girl in the kindergarten setting. The teachers were very surprised. They stated that the little girl was much more compliant towards group and class instruction, she was showing less aggression or problem behaviors, her language level was impressive if compared with 7 months ago and that she would demonstrate academic abilities like reading, writing and math skills.

Graphs show that the progress scored during the mother intervention is somewhat lower than the progress scored by the therapists; however, the difference between the two actors is encouraging.

The Table below is a summary of the changes.

Target area		Language imitation		Requesting		Intraverbals (songs)		Follow commands		Play Skills		First/Then Rule		Auto-Aggression		Beating against the floor	
Score (%)	No.of months	(%)	No.of months	(%)	No.of months	(%)	No.of months	(%)	No.of months	(%)	No.of months	(%)	No.of months	(%)	No.of months	(%)	No.of motnhs
Mother		50	5	70	4	100	1	40	2	70	1	35	2,5	35	2,5	60	2,5
Therapist		90	1	90	1	85	1	80	1	50	1	90	1	90	1	90	1

5. Interpreting the results

If we consider the No. of Months necessary for the mother and the therapist to jump to the first change, we will notice that there are a few targeted areas where the number is the same for both the mother and the therapist. The No. of Months for the therapist is one month only in all targeted areas, whereas the same cannot be said for the mother. The areas like Intraverbals (songs) and Play Skills, the No. of Months required was one for the both the therapist and mother, while in other areas the difference is considerable, e.g., Language Imitation, Requesting, Auto-Aggression and

Beating against the Floor – in all these areas the mother took from 5 to 2, 5 months of work before marking the first change.

If we look up the scores in targeted areas, we will notice two areas in which the mother has scored higher than the therapist: Intraverbals and Play Skills, whereas other two areas with lowest scores for the mother are: Follow Commands (one step instruction) and Auto-Aggression.

There might be two considerations to be taken into account: a) the experience of the therapist vs. mothers experience and b) the nature of the targeted area. If we take the therapist experience for granted and compare it to mother's experience in implementing ABA-VB based intervention, the results confirm the general expectation that is the therapist scores higher. Our interest is to draw attention in Higher Scores of Mother compare to therapist's that are in Intraverbals and Play Skills. The interpretation to such results might relate to the nature of the targeted area. Basically it is about the Mother and the Child singing and playing together while the mother uses the right procedures of prompting and reinforcing. Both these areas don't require very strict structure and are natural in a mother-child relationship.

It is also interesting to focus on the Lowest Scores of Mother that are: Follow Commands and Auto-Aggression. Both these areas relate to one core symptom of autism: impaired relationship and communication. Although the mother had a good understanding of autism, the very specific, challenging and disruptive behaviors that accompany the disorder are quite difficult to be assimilated and managed by the parent.

6. Considerations

Recently the number of children being diagnosed with ASD is increased. So is the number of their parents who enroll in parent training and implement interventions for the children. Much information about various intervention methods focusing on behavior modification for individuals with autism currently exists, however, professionals agree that parent involvement is crucial for the success of those interventions (Lai, Lombardo, & Baron-Cohen, 2014; Beurkens, Hobson & Hobson, 2013; Solomon & Chung, 2012; Benson & Carlof, 2008).

In 2001, the National Research Council recognizes that parents are able to develop skills, largely within the domain of applied behavioral analysis, which result in more effective treatment for their children. Obvious advantages of these methods include enhanced generalization, cheaper and less resource intensive interventions, and greater potential for maintenance of treatment gains. Additionally, such interventions position parents to better understand how to effectively treat their child. Including parents in treatment will prevent wastage of time and effort if the techniques and methods used to educate and teach children with autism will be research-based application. Different training packages are being designed to enable parents implement interventions. Other packages are to be developed. It could be interesting to further explore, while proposing new methods for parents to help their children, what are the areas that a parent can be successful or not compare to the therapist and what are the reasons behind such results. Doing so might avoid parents spending time in areas where a therapist can be successful for granted. Finally, the division of

implementation of intervention into identified areas specific for the therapists and parents might be advantageous.

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