



## *Stepping Stones Towards Applied Behaviour Analysis*

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### **Introduction:**

Difficulties in socialization, communication, and behavior are the main characteristics of Autism Spectrum disorder (ICD - 10). These symptoms express themselves before the age of three and are generally accompanied by deficits in cognitive functioning, learning, attention, and sensory processing. According to Action for Autism India there are two million children diagnosed with autism (based on an estimated rate of 1 in 250) (Action for Autism 2008).

Applied Behaviour Analysis is a basic intervention program used in the treatment of the behavioural problems of autistic (Maurice, Green, & Luce, 1996) and it has been successfully applied to behavioural excesses and deficits since 1960s (Lowaas, Freitag, Gold & Kassorla, 1965). ABA has been successfully applied to behavioural excesses and deficits in the area for autism since the 1960s (sited by Carr, & Firth 2005) and has been shown to be an effective means of intervention for adults and children. The ABA approach teaches social, motor, verbal behaviors and reasoning skills, and is effective in managing challenging behaviour.

### **A Case Report Using ABA Based Intervention Is Presented.**

#### **CLIENT'S DETAILS:**

Master VA, aged 3 years 7 months, is the only child born of a non consanguineous marriage as a full term normal delivery. His birth weight was 3 kilogram and birth cry was immediate. The child suffered from neonatal jaundice from the 2<sup>nd</sup> day of his life and underwent phototherapy. Developmental milestones were reported to be within normal limits except for delayed speech which was the reason for which the parents brought the child for evaluation

#### **PRESENTING COMPLAINTS:**

On evaluation at the Department of Clinical Psychology of the child was found to have poor eye contact, poor response to name call, restlessness with constant jumping around, repetitive behaviours like touching his mother's and his own eyelashes, tapping behavior using objects like pens, rotating and shaking objects and lack of speech and language skills. The child was always on the move and would not sit

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in a place.

**PSYCHOLOGICALASSESSMENT:**

1. CARS
2. Child Behaviour Management Survey 3.0
3. Behavior Function Checklist

Parents came in with lot of complaints but the actual function and the intensity of the behavioural problems were not clear. Assessment helped in pinpointing the behaviours which needed immediate attention.

**Assessments Were Carried Out Over Two Sessions**

On CARS his score of 35 indicates mild moderate autism. The child could not establish eye contact and able to adjust to the transitions. He liked looking at the lights in the toys but would not look at a toy or activity when working with the same. With regards to his touching behaviour; VA enjoyed touching his mother's eyelashes or his own.

The problem behaviours as assessed on Child Behaviour Management Survey 3.0 was "Hyperactive / Agitated," "Anger," "stereotypic behaviour," "Temper tantrum" and "Impulsive" According to his mother the current problem behaviour was constantly touching his and her eyelashes, running around continuously and not complying to demands made of him.

Functional analysis of behaviour indicated that his stereotypic repetitive behavior was self-stimulatory and maintained by Automatic Reinforcement. (automatic reinforcement – reinforcement that occurs independent of the social mediation by others – scratching an insect bite relieves the itch). His other behaviours, like temper tantrums and adamant behavior were maintained by positive reinforcement; mainly compliance from the parents. They always catered to his needs and the child did not have to make demands.

The initial pre-requisites goals of the therapy were

- ✓ In seat behaviour.
- ✓ Establishing and maintaining eye-contact
- ✓ Compliance to demands without getting distracted in therapy setting
- ✓ Reduction in the frequency of the eyelash touching behaviour in therapy setting

The problem behaviours which were considered for the intervention were

- Touching mother's eyes
- Touching of his own eye and
- Constantly running around

**DEFINITION OF PROBLEM BEHAVIOR**

Touching mother's eyes – He would go up to his mother, touch her cheeks and face affectionately and then touch her eyelashes and eyelids. The frequency of this behavior was high- around 10 times in a span of 20 minutes but the temporal extent-duration of the behavior was about 10 seconds.

Touching of his own eye – He would exhibit this behavior when he was not able to touch his mother's eye due to her absence. The frequency of this behavior was dependent on the presence of the mother.

Constantly running about-He would not sit in a place but would move around the room all the time, going from one place to the other. He did not show any preference for any place or activity.

*There were 17 sessions in all each varying for a minimum period of 20 minutes to a maximum period of 45 minutes. Overall, the therapy sessions lasted for 12 hours and 10 minutes.*

*The intervention was carried on different levels.*

**The sessions are divided into sequences/ clusters/levels**

- Preference play – session 1
- Non contingent reinforcement – sessions 2-4
- Differential reinforcement, prompt and prompt fades –sessions 5-8
- Varied ratio and social reinforcers – sessions 9 -17

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Reinforcers used for the sessions were

- ✓ Savouries – murukku
- ✓ Pen – rotating the same

**Session 1.** (Preference play):

During the preference play VA was not interested in any toys. He was randomly looking at the toys and was rotating the same. It was observed that the child touched his mother's eye ten times and he was randomly walking around the room while rotating the lego cube in his left hand for the 20 minute session. Basically, there was no preference for any particular toy, in spite of him rotating the cubes or the blocks through out the session. The child would rotate any toy which could fit in his palm.

**Session 2 - 4.** (Non contingent reinforcement).

Non contingent reinforcement was used to build the rapport with the child. He was reinforced on randomly with out any demands placed. Pen was used as a reinforcer. He would not return the pen back when asked for it after 20 seconds, but when it was always returned to him the child did not fuss and complied with the returning of the pen when asked for it. The child was compliant for the first 20 minutes of the session. During the 40 minute session his inseat behaviour was about 10 minutes. In the session the child took frequent breaks and walked towards his mother to touch her eyelashes. The frequency of his touching behaviour was 16 times in a span of 20 minutes. Mother was instructed not to encourage this behaviour. The alternative behaviour of blocking and distraction techniques was taught to the mother. She was asked to prevent the touching behavior by holding his hand and verbally reassuring him that it was alright and asking him to return to his seat. She was asked to carry out the same strategy at home also.

**Session 5 - 8.** (Differential reinforcement, prompt and prompt fades)

The following session were focussed on improving eye contact, in seat behaviour, response to name call and decreasing eye touching behaviour. The child would take 10 - 15 minutes to settle and if he is coming from other therapies (speech therapy) he would take a little longer time. Initially he was given physical and verbal prompt for most of the activities and by the end of the sixth session prompting was not required. His in seat behaviour time was around 5 minutes in a stretch, after which he would move out of his seat and walk or jump around the room. The duration of these breaks were about 2 minutes after which he was asked to return to his place. Whenever the child would take break and move out of his seat it was difficult to get him back to his place and he needed to be guided back to his seat. The frequency of the eyelashes touching behaviour was 10 times in a span of 20 minutes.

**Sessions 9 - 12.** (Varied Ratio- Social reinforcers)

VA was more comfortable to walk into the sessions and would settle easily except when he came for speech therapy session where he would take 5-7 minutes to settle..

During these sessions his in seat behavior increased from span of 5 minutes to 15 minutes at a stretch. His eyelashes touching behaviour has also reduced over the sessions, coming down to about 4 times in a span of 20 minutes.

The child was able to sit without the mother being present in the therapy room from the 11th session onward. When he was given a break to walk around the room, he would come back when asked to return.

The child was given activities like throwing and catching of ball, giving a toy to rotate, and tickling him as reinforcers. VA was reinforced for every fourth correct response either verbally or by any of the above activities.

**Sessions 13 - 17.** (Varied Ratio- Social reinforcers)

VA would walk into the therapy room and sit in his assigned place. The child was able to sit for a period of 25 minutes at a stretch without any break. At times he would take 3 – 5 minutes to settle if he had some other sessions before this session.

VA would perform all the activities assigned to him. The time taken to complete different activities and the number of errors committed had reduced over the sessions. He would not look directly at the peg boards or form boards while placing the shapes in place. The child would look at the materials or the therapist for the other activities like flash cards, beading, and motor imitation. He would also ask for help by reaching out for the therapist's hand when he had difficulty in completing the peg board task. He would establish and maintain eye contact and wait for the instructions.

The frequency of touching his eyelashes had reduced to 2 – 3 times in a span of 40 minutes. Mother also reported a similar reduction in this behavior at home

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**TERMINATION**

VA's parents had to go back to his home town, so the therapy was terminated after around 3 months with a total of 17 sessions.

**CONCLUSION**

When the child's therapy was terminated his achievement were

- 1)VA was able to sit in a place and learned to perform the assigned activities for a period of 30 minutes. His jumping and running around behaviour had reduced significantly and he was able to spend more time on the activities assigned to him.
- 2)He was compliant to the requests and demands made by the therapist and his parents.
- 3)He would establish and maintain eye contact and respond to his name by the second call.
- 4)The child's eye touching behaviour had reduced. His mother had learned the technique of distraction and guiding him to some other activity.
- 5)Child would follow simple one step instructions while performing the activities.

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