CHAPTER III

METHODOLOGY
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METHOD

3.0 Need of the study

While there is no justification to assume that children with autism can or will have inherently more problem behaviors than their unaffected age peers, there are grounds to suspect that such children are misunderstood by their adult caregivers or parents. The biggest source of confusion in this regard may stem from the fact that problem behaviors in the child remain undistinguished from behavioral manifestations owing to their primary disorder itself. For example, a head banging may be a repetitive behavior symptomatic of the primary autism or it could also be a ploy to derive attention, expression of a communicative skill deficit or even a mechanism to escape behavior for the child (Hastings & Brown, 2002).

Another need for distinguishing skill behavior deficits from problem behaviors especially in children with autism is that the plan, procedure and program for interventional management are different for the two types of behaviors. A skill behavior insufficiency is best resolved by use of techniques that teach the child a new set of behaviors. On the other hand, the identification and management of problem behaviors typically follow a different route. It involves use of operant techniques that extinguish or exchange such unwanted behaviors for more acceptable ones. Further, there are also instances where in an earlier skill behavior deficit gets resolved before the same behavior changes into a problem behavior requiring certain other techniques of handling. A classic example of this kind is the case of a child who initially mouths slippers owing to a skill behavior deficit of not being able to discriminate edible and
non-edible substances. The same behavior of mouthing slippers may reappear as problem behavior in the same child after a bout of skill training in order to attract negative attention of caregivers.

Yet another need and justification for attempting distinction between skill behavior deficits and problem behaviors in the context of children with autism is that the problem behaviors may themselves be the consequence of developmentally age inappropriate programming, wherein these children are indiscriminately targeted for teaching higher level developmental skills before their mastery of lower level prerequisite skills, the consequences can be disastrous. They end up showing problem behaviors like inattention, refusal, negativism, temper tantrums, etc.

Professionals and rehabilitators working with these children with Autism having behavioural issues are interested to find out techniques by which such behaviours can be handled or modified. The present study was therefore designed to find out the effect of customised behavioural intervention on problem behaviours as distinguished from skill deficits in children with Autism.

### 3.1 Aims

Going by these background details, and in the hope of addressing some of these research questions, it is the proposed generic aim of this investigation to study the effects of an early behaviorally based intervention program on problem behaviors in children with autism. The specific objectives proposed under the investigation are:
(a) To identify, list and record a baseline of the different types and specific instances of problem behaviors as distinct from deficits in their skill behaviors for children diagnosed as autism;

(b) To carry out an individualized case-by-case topological mapping of situations, triggers, antecedents, functions, maintaining aspects and consequences for the identified problem behaviors as observed in home or school settings for the children diagnosed as autism;

(c) To evolve an individualized and/or small group based behavioral intervention strategy based on the identified problem behaviors in home or school settings for the children diagnosed as autism;

(d) To implement the evolved individualized and/or small group based behavioral intervention strategy on the target children with autism for the specified time frame and/or envisaged sessions in home or school settings; and,

(e) To undertake a terminal evaluation of the intervened different types and specific instances of problem behaviors in home or school settings for the children diagnosed as autism.
3.2 Hypotheses

Null Hypothesis:

Apart from an exploratory component in this investigation which seeks to identify, list, profile and record a baseline of the different types and specific instances of problem behaviors as distinct from deficits in their skill behaviors for children diagnosed as autism, the following directional hypotheses are also formulated for verification in the present study:

(a) Children with autism have problem behaviors which are indistinguishable from deficits in skill behaviors.

(b) Customized behavioral intervention strategies will not have any significant impact on problem behaviours as distinguished from skill deficits.

3.3 Sample

The research group included 60 children (49 boys and 11 girls) diagnosed with autism. Of these, 30 children were assigned for the experimental group and 30 for the control group. The mean age of the children in the experimental group was 5.02 years and that of children in control group was 4.74 Years. All children participants were diagnosed by a clinical psychologist at the school, using the Childhood Autism Rating Scale (CARS) and met established ICD-10-CM criteria for autism (WHO, 2010). The protocols were administered by an independent clinical psychologist. The participants
for the research were selected on a set inclusion and exclusion criteria, which was as follows

3.4 Inclusion Criteria

(a) Children in age group of 3-6 years with equal representation for gender;

(b) Children diagnosed as ‘Autism Disorder’ based on ICD-10-CM official criteria (WHO, 2012) by a clinical psychologist;

(c) Children with at least 8-10 problem behaviors as reported by primary caregivers irrespective of their frequency, type or severity and as recorded at baseline during sample recruitment in this study on a standardized tool for identification of such behaviors.

3.5 Exclusion Criteria:

(a) As distinguished from the primary autistic disorder, children with expressive language disorder, mixed receptive-expressive language disorder, mental retardation, socialized/socialized disturbances of emotion-conduct, social anxiety, reactive attachment disorders of infancy and early childhood, disinhibited disorder of childhood, child abuse and neglect, habit disorder, and/or related medical conditions like Angelman Syndrome, Cornelia de Lange Syndrome, Landau Kleffner Syndrome, Hyperlexia, etc.

(b) Those children who have skill deficits were not considered for the study.
3.6 Operational Definitions:

The key terms, parameters and variables in this study are: (a) Skill and Problem Behaviours; (b) Skill Behaviour Deficits; and, (c) Customized Behaviour Intervention.

3.6.1 Skill and Problem Behaviours

Skills or adaptive behaviour contrasts maladaptive, dysfunctional, non-productive problem behaviours. It is age appropriate behaviour necessary for an individual to function safely and independently in daily life. Specific examples include competency in performing skills related to sensory, fine or gross motor tasks, activities of daily living, such as, eating, dressing, grooming, toilet care and personal hygiene, communication, social-play, community orientation, academics, etc. Problem behaviours, on the other hand, are negative, undesirable, maladaptive, or
challenging although observable-measurable actions of people which may be deemed as not being age or situation appropriate, unproductive, interfering in their learning of new behaviours, harmful to self or others, occurring in magnitude sufficient to cause stress to others (Venkatesan, 2004). Typical categories of such behaviours are: ‘violent and destructive’, ‘self injurious’, ‘odd’, ‘antisocial’, ‘repetitive’, ‘temper tantrums’, ‘misbehaviour with others’, ‘anxieties or fears’, ‘hyperactivity and rebellion’ (Peshawaria & Venkatesan, 1992a). Of course, there cannot be a single universal classification of these categories. Nonetheless, behaviourists insist that all behaviours are learned as a function of the utility, benefits or contingencies they secure for an individual either immediately before or after the occurrence of such behaviours. In holding so, the behaviourists enunciate a specialized form of assessment of overt observable-measurable actions as precursor to planning behaviourally based interventions for the affected individual or groups of such individuals (Peshawaria & Venkatesan, 1992b).

Problem behaviours in this study refer to any or all observable and measurable actions of individuals which are negative, maladaptive, undesirable, or problematic for the individual or to others around. It can be potential source of harm to self or others. They may be likely source of danger for the child or people around, are age inappropriate for the age or developmental level of the child, socially deviant, cause great strain on caregivers, interfere in teaching/learning new skill behaviours or in the performance of already learned old skill behaviours in a child (Venkatesan, 2004). Examples: hits others, screams, stamps feet, rolls on floor, pulls objects from others, sucks thumb, hoards unwanted things, bangs head, etc.
3.6.2 **Skill Behaviour Deficits:**

Skill behaviours in this study refer to positive behaviours that children have or need to be trained for successful personal and social living. Examples of skill behaviours are “indicates need to go for toilet”, “buttons own clothing”, “points to body parts”, “recognizes values of coins”, etc. The range of skill behaviours cover domains like motor, activities of daily living, language, reading, writing, money, time, domestic, community orientation, social, prevocational, leisure or play activities. Obviously, the categories of skill behaviours vary according to ages/levels. Sensory-motor behaviours are more relevant for infants and toddlers. Community living or sex/hygiene related skills are more appropriate for older or higher functioning persons with disabilities.

3.6.3 **Customized Behaviour Intervention Strategy:**

A customized behavioural intervention in this study refers to a formal and systematic program of individualized and/or small group intervention measures, procedures and techniques tailor made to seek the elimination or decrement of problem behaviours as contrasting the retaining or increment of skill behaviours in target children.

*Customised Behaviour Intervention* (CBI) traditionally addresses problem behaviours in children with exceptional needs. The focus of these interventions is typically to provide a restructured learning environment and an opportunity to develop appropriate pro-social behaviours in home, school and community settings.
EIBI, a variant of the CBI, starts early during the developmental stages or ages of children. Both the programs share common characteristics in terms of being coordinated, customised, continuous, caregiver involved, individualised, intensive, inclusive, non-aversive, non-coercive, one-to-one, or home-oriented. They are known by several names: Behaviour Management Program, Behaviour Support Program, Positive Behaviour Facilitation Program, ABA, Behaviour Intervention Program, etc.

3.7 Tools

3.7.1 Activity Checklist for Preschool Children- Developmental Disability. (ACPC-DD), (Venkatesan, 2010): The ACPC-DD is a standardized behavior assessment device to elicit systematic and comprehensive information on current level of skill behaviors in preschool aged children (0-72 months) with developmental disabilities (Appendix-1 & 2). The tool consists of 400 items distributed evenly across 8 behavioral domains relevant to daily activities of such infants, toddlers and preschoolers, viz., Sensory, Gross-Motor, Fine-Motor, Communication, Play, Self-Help Activities, Cognitive Activities and Pre-academics. The specific number of items under each domain is intentionally fixed at 50. Every activity/item is written in clearly observable-measurable terms to avoid confusion in understanding or interpreting them. The items at each age level/domain are located in an increasing order of difficulty/complexity such that more items are passed at lower levels than at higher levels on the tool. The tool also serves as a curriculum guide and has been field tested with adequate internal, external and concurrent validity ranging between 0.86-0.92. As per the procedure laid down for administration of ACPC-DD, each child is assessed and a behavioral profile of assets/deficits (i.e., behaviors s/he "could" and/or
"could not" perform) are enlisted as baseline through direct observation, interview of parents/caregivers or as details available from other reports. If the child ‘could perform’ a given item, it was ascertained as to what level s/he can perform that item scored between 0-5 subject to a maximum score of 250 under each domain and 2000 on the whole for any given child assessed on this tool. In short, the tool enables an individualized case-by-case topological mapping of situations, triggers, antecedents, functions, maintaining aspects and consequences for the identified problem behaviors as observed in home or school settings for the identified children diagnosed as autism.

3.7.2 Problem Behaviour Survey Schedule (PBSS; Venkatesan, 2013): The measurement of problem behaviour and their associated characteristics in the enlisted sample was undertaken by the use of both formal as well as informal techniques.

As a formal procedure, the PBSS was used to identify and list the quantitative particulars of problem behaviours in the sample children (Appendix 3). Details were taken on frequency, intensity, duration, and/or extensity of problem behaviours in home, school and community settings. This 100-item tool is an elaborately developed and standardized system of problem behavior assessment for a given child with special needs. The items are grouped into 11 domains. The instrument has a prescribed scheme of administration, recording observations, scoring, profiling and interpretation of results. There is provision for periodic assessment of each child at every quarter (or three months) and to calculate raw score convertible into cumulative percentages and graphic profiles. All items in the scale are written in clear observable and measurable terms. The scoring is carried out on two counts: ‘Frequency Count Score’ (FCS) based on presence or absence of given problem behaviors; and ‘Intensity/Severity Count Score’ (I/SCS) of the problem behavior for a given child.
The former is marked as ‘present’ (score: one) or ‘absent’ (score: zero). The latter is calculated on a 3-point rating scale: ‘never’ (score: zero), ‘occasionally’ (score: one), and ‘frequently’ (score: two). The maximum possible FCS on PBSS is 100 and I/SCS is 200 for a given child. Additionally, the tool facilitates for each child another ‘Directionality Score’ (DS) in terms of ‘internalizing’ and/or ‘externalizing’ patterns of problem behavior. Further, one can derive a problem behavior severity index, and deduce the deviation score of problem behavior for a given child against available norms. The inter-rater reliability coefficient was reported high (r: 0.911; p: <0.001).

Another 3-week test-retest reliability exercise undertaken on a sample of 15 cases equally representing all clinical categories was reported to be 0.89 (p: <0.001).

As informal procedure, another semi-structured ‘Demographic Data Sheet’ and ‘Open Ended Interview Probe’ were exclusively developed and used to elicit additional information on antecedents, consequences, reward preferences, baseline, parents/teacher perceived ‘causes’ of problem behaviors or their report on problems and issues involved in implementation of the intervention program by using multi-procedural strategies including direct observation of the children, unstructured or open ended interview of significant others, field notes, case studies, etc.

3.8 Setting

The study was conducted in two settings namely home and therapy settings. The baseline assessment of the problem as well as skill behaviours for the study was conducted in the therapy setting individually both through observation and through parent report. The customised therapy sessions were divided and taken in the home as well as therapy setup.
3.9 Research Design

The study uses 2-group pre-test, post-test comparative intervention research design covering the period of data collection between September-October, 2013. The key terms used in this enquiry are: ‘Concurrency’, ‘Behavioral Intervention’ and targeted variables are: ‘skill behavior’ and ‘problem behavior’ as applied on a clinical sample of children with autism.

3.10 Procedure

The data collection for the study involved one to one administration of the PBSS (Appendix-4) and ACPC-DD (Appendix-5) to ascertain the baseline for each child in the problem and behaviours. The informants for the collection of the data included parents/caregivers, teachers and the therapist. An informed consent was taken and response anonymity was assured in accordance with the ethical guidelines (Appendix-6&7) mandated for such studies (Venkatesan, 2009). Following the baseline collection of the data, 8 children were selected from the group for pilot study.

As a part of pilot study, 5-10 behavioural objectives were short listed covering both skill and problem behaviour for each child. Information was elicited on instances describing what happens ‘before’, ‘during’ and/ or ‘after’ occurrence of problem behaviour. Recoding of how many times, how long, with whom, where, when and which problem behaviour occurred, both in home and school settings was noted. This elaborate mapping became the basis for behaviour formulation, planning and
programming of Customised Behavioural Intervention. These objectives were listed for intervention on a clinic and home based intervention module. Supporting verbal and written guidelines on how to train the child on the chosen target behaviours or managing problem behaviour, simple or pragmatic record keeping procedures, behavioural techniques to be implemented, biblio-therapeutic materials, reward or incentive systems to be used, etc., were also given to each enlisted caregivers. Teaching aids/materials relevant to the chosen behavioural objectives were exemplified. Written instructions accompanied the verbal explanations such that record keeping was simple, pragmatic, direct and immediate during home training. The standardized “toy-kit” to go with ACPC-DD (Venkatesan, 2010; 2012) was also used as part of this program. There was at least one follow up in 4 weeks ranging for a period of two months. The entire intervention was implemented across 12 structured sessions including 4 sessions of group work. The behavioral achievements of each child was recorded during every follow up along with information on items not achieved or those marked as “ongoing” activities for further training.
The scores hence received from the pilot study were analysed to see if the behavioural intervention planned and the method used were helpful in achieving the goals. The results of the pilot study demonstrated the feasibility for identifying, listing and recording baseline of problem behaviours as distinct from deficits in skill behaviours in children with autism. The results also indicated increment in post intervention scores measuring skill behaviour acquisition and concurrent decrease in scores measuring problem behaviours.
3.10.1 Final Data Collection for experimental group:

Keeping the results of the pilot study as reference, the final data collection was undertaken on 60 children with autism, including 30 in experimental group and the remaining in control group. As in pilot study, the children in experimental group received customised behavioural intervention for 30 days at the rate of 2 hours per day. The week-to-week schedule of study for the experimental group was as follows:

**Week-1**

- Day 1: Eliciting baseline information on ACPC-DD and PBSS from parents, caregivers and teachers working with the child.

- Day 2: One-to-one interaction with child along with the parents and teachers for finalising the goals to be taken up for the study. This session also covered gathering information on various reinforcers for the child and rapport building through group activities like use of singing rhymes.

- Days 3-5: One-to-one sessions taking up one goal at a time using parents and teachers as co-therapists. The activities included academic activities with few changes using principles of structured teaching and/or ABA. While the activities were carried out, the behavioural intervention techniques like activity rescheduling, use of rewards etc were also demonstrated to parents and the teachers, so that, the same can be followed at their home setting.

- Day 6: Small and/or big group activities wherein all the children were made to play games keeping in view the goals that were chosen. Emphasis was laid upon teaching turn-taking, waiting, rule awareness, sharing and socialization.
Games like passing the parcel, Simon says (which helped in following commands) and simple board games were played.

- By the end of week, one home based training activity was planned and given to the parents. The parents were also instructed to maintain a diary to note down even smallest of changes.

**Week 2**

The week 2 followed the same routine with day 1-5 having activities to be done individually or in pairs and the day 6 being specially allotted for group activities. The day 6 of week 2 included some sensory play activities wherein they had to use paints on their palms to do painting, sand play and water play. These activities were planned keeping the behavioural principles in mind, so that the goals are met.

**Week 3 and 4**

Day 1 of week 3 involved checking the improvements in children to review if any mid-course corrections or changes need to be incorporated in the therapy plan.

The next five days consisted of the similar goals as before with changes only in the activities. The children were now kept involved in the activities for a longer duration and with minimum prompts from the teacher/parents/therapists.
**Week 5**

This week of the therapy program consisted of working on the goals which were yet to be achieved fully. For some children, it was, for example, ‘to sit on a task for minimum of 10 minutes’, or ‘working independently’, and for some others, it included, ‘working towards reducing on behaviour tantrums’, etc.

In this week, the therapy was more of one-to-one interactions with the therapist and parents. However, in this stage, the parents were inter-changed, i.e., parent ‘A’ would work with child ‘C’ and parent ‘C’ with child ‘A’. This was intended to make the child comfortable even with an unknown person.

**Week-6**

Collection of final scores from the parents and the teachers;

Oral feedback collected from parents and teachers as to how effective the therapy was in addressing their problems and if they required any further help in dealing with the problems.

On the whole, in sum, the 5 week long Customised Behavioural Intervention spread over 30 sessions, of 2hr each in school, home and therapy settings comprised of one to one as well as small/big group based sessions using procedures derived from ABA, environmental manipulation, direct instruction on identified individual skill deficits, structured teaching and parent guidance covering play, receptive-expressive
communication, sensory-motor, pre-academics and self help activities. For example, if ‘imitating a rhyme’ was the mainstay during a session all the activities, procedures and practices used in that session or for the group of children involved use of behaviour techniques like shaping, imitation, prompting, rehearsals, guidance or verbalisation related to that targeted skill.

An exclusive and simultaneous focus was laid on identification and management of problem behaviour wherever present in the child. This was carried out by listing the observed or reported problem behaviours, prioritising, analysing their antecedents, and consequences, mapping their perceived causes, and/or ongoing handling techniques, eliciting the constraints involved in implementation of home-based program etc. The overall objective of the program was to enable the targeted children to internalised what is being trained or thereby reach a level of sufficient independent mastery.

3.10.2 Behavioural Intervention

The on ground behaviour techniques were drawn from several sources. The behavioural interventions in this study involved strategies that enabled children to acquire certain behaviours to cover deficits and/or to tone down excesses in typically contrived environment before these changes become permanent characteristic of the child’s behaviour. The emphasis was on analysis of here- and – now antecedents and/or consequences, which if manipulated was used to alter any given wrong behaviour.
The intervention typically included involvement of parents, peers, teachers as co-teachers or co-therapist, adoption of certain characteristic teaching methods, covering the particular curriculum spread across varied environmental settings, level and variety of skills and simultaneous reduction of aberrant behaviour.

The ground techniques used for the study involved compliance training, activity scheduling, use of rewards, careful selection of instructional materials and procedures like environmental manipulation, operant techniques like shaping, chaining, prompting or fading, contingency contracting, token economy, time-out, extinction etc. Stress was given to the customised or individualised instructions as per the requirements of each child. Thereafter, the children as well as parents/caregivers were continuously shadowed across settings like school, home or during play to achieve transfer of learning, generalisation, integration and mainstreaming.

The individualised remediation techniques implemented after functional analysis of each problem behaviour included extinction, differential reinforcement, time-out, physical restraint, restitution or over correction, conveying displeasure etc. additional guidelines given to parents/caregivers on home based program application included resolving disagreements between caregivers, enabling them correct identification of functions underlying specific problem behaviours, recommending them to desist against use of ad hoc, arbitrary or counter-productive techniques like false inducements, nagging, pleading, begging or bargaining with children.
Figure 1: Flow Chart of week by week procedure of data collection

**WEEK-1**
- Eliciting baseline information
  - One-on-one interaction
  - Finalizing the goals
    - One-on-one sessions
    - Group Activities
    - Home Training

**WEEK-2**
- Obtaining feedback
  - Activities in pairs
  - Day 6 having sensory play
    - Home Training

**WEEK-3 & 4**
- Obtaining Feedback
  - Mid course assessment
  - Changes in duration of activities
    - Small/big group activities
    - Home Training

**WEEK-5**
- Working on unachieved goals
  - More one-on-one activities
  - Interchanging Parents for socialization

**WEEK-6**
- Collection of final scores
  - Obtained Oral Feedback

Compiled data for analysis
3.10.3 Final data collection for control group:

As in the case of experimental group, the baseline scores for the children under the control group was also collected on ACPC-DD and PBSS. The children under the control group were not given any behaviour therapy either at the school or at home settings, although these children underwent other special educational and speech therapies. After a gap of one month final scores were again collected from this group to compare the difference in the level of achievement between experimental and control group.
3.11 Case Vignettes

Case-1

Riya (name changed) is a five year old girl with autism. She was brought with complaints by the mother that she cannot work on a task for more than 5 minutes before she starts hitting self if forced. Same was the view of her teacher, who expressed her inability to manage Riya in the class. After careful observation of her interests, an IEP was prepared by restructuring the academic activities. The activities were redone in the form of games ending with a small worksheet. This helped as she could complete the task and the worksheet covering almost 10-12 minutes by the end of the intervention. As per the mother “Riya now enjoys doing academics and asks herself for the activity. Thank you for finding a way out.”

Photograph 6: Activity restructured to teach word matching
Case-2

Sam (name changed), 3.5 year old boy, was assessed on the ACPC-DD and PBSS for finding out the problem to work on. Mother reported that he would continuously cry and pinch the mother if he is told to do an activity that he did not wish to, especially dealing with numbers. The mother was worried if he can be ever put into a regular school. With careful selection of activities, numbers were taught by keeping his interests in coins. Techniques like using rewards, time-out, ignoring his crying were used. The mother was instructed to follow the same at home. After 1 month of training, he could be made to work with numbers and understood that crying would not help him get away with task. His special educator reported “The therapy made it easy for me to handle him during number activities. Otherwise, his behavior was disturbance for the whole class”.

Photograph 7: Number book to teach numbers

Photograph 8: Number book to teach number value

Photograph 9: Teaching aid to teach number concept
Case-3

Nishchay (name changed), a 4.2 year old boy, was recruited for this study. He had come to the centre with a diagnosis of autism with just one-word speech. He would not sit for a task for more than 6 minutes. After one to one interaction with the mother, it was found that he loves Spiderman and gets crazy looking at such pictures. He was also fond of robots. Taking this into consideration, he was given Spiderman masks. The stories were enacted with the help of mother and therapist/s. He would be the Spiderman and had to speak the dialogues written for him. Initially, it would be with prompts. Later, it was reduced to the minimum. His worksheets for colouring consisted of pictures of Spiderman and robot, which he enjoyed colouring. Activities based on structured teaching principles were made to teach him to “demand” for things. At the end of one month, his father reported that his son could speak in sentences now. The boy reportedly said ‘I want Spiderman cartoon’. The father admitted, ‘I can’t explain how happy I am to fulfil his demands now’.

Photograph 10: Structured activity to teach demanding for
Case-4

Ravi, a 6 year old boy, was brought to the centre with a diagnosis of autism. He was deemed to be a high functioning child with an ability to memorise things if told in a musical form. He hated writing and would create a ‘big scene’ on the playground as he could ‘never wait for his turn’. The teachers also reported the same. Turn taking/waiting for his chance was taken as the first goal. Activities were structured and planned to teach him the same. An activity was made which was to be initially played between two people and then 4/6 as the time passes. As he enjoyed water play, it was given as a reward after he waited for his turn. He would be given water pool or a tub filled with water and toys. As for his writing, he was made to write on sand, while playing or on big charts stuck on the wall with paints. He enjoyed doing it. Both the mother and the teacher expressed “It’s much easy to make him wait now. We are using the ‘WAIT’ card to make him understand.”

Photograph 11: Teaching aid to teach waiting/turn taking
<table>
<thead>
<tr>
<th>Terms</th>
<th>Meanings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chaining</td>
<td>Behavior chain is a series of related behaviors, each of which provides the cue for the next and the last that produces a reinforcer.</td>
</tr>
<tr>
<td>Compliance training</td>
<td>It involves graduated exposure of a child to increasingly more challenging requests at a slow enough rate to ensure that noncompliance rarely occurs.</td>
</tr>
<tr>
<td>Contingency contracting</td>
<td>Technique using behavioral principles whereby students complete less preferred work in order to receive a reward.</td>
</tr>
<tr>
<td>Differential reinforcement</td>
<td>Technique which uses both reinforcement and extinction to reduce problem behaviors. Certain behaviors are reinforced (the positive behaviors we want to see), and some are not reinforced (problem behaviors).</td>
</tr>
<tr>
<td>Environmental manipulation</td>
<td>One of the fundamental techniques used by ABA. Existing behaviors are carefully observed and recorded and the observed patterns are used to determine how consequences should be manipulated in order to bring change.</td>
</tr>
<tr>
<td>Extinction</td>
<td>The rule of extinction proposes that because behaviours occur for a reason - they get us things we want - if we stop getting what we want after we engage in a certain behaviour then that behaviour will eventually stop occurring because it no longer serves any purpose for us.</td>
</tr>
<tr>
<td>Fading</td>
<td>Weaning the child off prompts by fading which is simply gradually reducing the strength of the prompt.</td>
</tr>
<tr>
<td>Mand</td>
<td>It is a verbal behavior which is controlled by states of deprivation and aversion and usually specifies its own reinforcer. Mands are used to get needs and desires met and the reinforcer for the use of this verbal operant is that which is naturally reinforcing.</td>
</tr>
<tr>
<td>Prompting</td>
<td>It means inducing the person to perform a desired behavior by presenting a prompt.</td>
</tr>
<tr>
<td>Shaping</td>
<td>A way of adding behaviors to a person’s repertoire. Shaping is used when the target behavior does not yet exist.</td>
</tr>
<tr>
<td>Structured</td>
<td>Is an approach in instructing children with autism. It allows for implementation of a variety of instructional methods (e.g., visual</td>
</tr>
<tr>
<td>teaching</td>
<td>support strategies, Picture Exchange Communication System - PECS, sensory integration strategies, discrete trial</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tact</td>
<td>Tacts can be called label of something in the environment or vocabulary. Tacting is functionally very different from manding and is usually taught after an individual has a repertoire of echoic and manding behavior.</td>
</tr>
<tr>
<td>Time Out</td>
<td>A procedure whereby positive reinforcement is not available to an individual for a period of time.</td>
</tr>
<tr>
<td>Token economy</td>
<td>It is a system for providing positive reinforcement to a child or children by giving them tokens for completing tasks or behaving in desired ways</td>
</tr>
</tbody>
</table>
3.12 Statistical Analysis

The data was compiled into tables using computer programs like word and excel, before appropriate statistical procedures and techniques were used in the form of measures of central tendency, dispersion and correlation along with appropriate tests of significance, such as, Friedman’s Test for chi-square, T-test, F-Test, ANOVA, Repeated Measure-ANOVA and Wilcoxon’s Test. for analysing the effect of customised behavioural intervention on problem behaviours in children with autism.

The data was analysed using SPSS and presented under the following heads:

- Comparative pre and post treatment score on skill and problem behaviour
- Domain-wise distribution of pre and post treatment score on skill behaviour
- Domain-wise distribution of pre and post treatment score on problem behaviour
- Between domain correlation in intensity score of problem behaviour
- Between domain correlation in frequency score of problem behaviour.
Selection of Children With Autism through random sampling

Consent Obtained

Baseline assessment using ACPC-DD & PBSS

8 children selected for pilot study

Experimental Group

Received intervention for 12 sessions/2 months

Assessments recorded and data analyzed

Control Group

No intervention

60 children selected for study through random sampling

Experimental Group

Received CBI for 30 days/2hrs daily

Assessed after 2 weeks to check

Final scores on ACPC-DD and PBSS

Analysis of data received

Control Group

No CBI, but underwent other therapies

Assessed after 2 weeks to check

Results discussed