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Effectiveness of Behaviour Modification Techniques on Problem Behaviours in Differently Abled Children: A Case Study

Psychology

KEYWORDS: Functional Behavioural Analysis, Problem behaviours, Behaviour Modification technique.

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ABSTRACT

The present study was conducted to study the effectiveness of behaviour modification on Differently Abled Children. The participant was a 3 years 6 month old male child. On Psychological testing it was diagnosed that he had Mild Developmental Delay. Four problem behaviours of banging head, pinching others, Excessive crying and Calling slang/swear words were targeted. Functional Behaviour analysis revealed Attention and Tangible to be the two functions that are maintaining the behaviour. Effective Behaviour Management Procedures of Custodial Physical Restraint and Extinction from Attention, combined with Differential Reinforcement of Alternate Behaviour was followed. Continuous and Consistent therapy brought measurably significant reduction in these behaviours within one month. This proves the high effectiveness of Functional Behavioral Analysis on reducing Problem behaviours in Differently Abled Children. Hence, the study proves to be a valid contribution towards betterment and inclusion of this population into the society.

The problem behaviours of children with disability is an issue of much concern in various spheres of his life. It limits the individual's chances of inclusion to a society and affects his family and their existence in the society in general. Providing an Effective intervention strategy to manage problem behaviours becomes crucial in this context. The present study aims to find out the effectiveness of behaviour modification techniques on problem behaviours in differently abled children.

Behaviour refers to both covert and overt responses (Rimm &Masters,1974). Wolf and Risley (1968) suggest that for an activity to be classified as behaviour it must be observable and measurable. A behaviour is considered observable when it can be seen and measurable when it can be described in terms of clear criteria (Donnellan & LaVigna, 1988).

Behaviours in children with mental handicaps are divided into two, Skill behaviours and Problem behaviours. Skill behaviours include activities like eating, dressing, toileting, bathing and the like. Problem behaviours are those behaviours that are (1) dangerous to self/others (2) inappropriate for age/ developmental level (3) interferes with learning (4) causes unreasonable stress to others and/or (5) socially deviant.

Research has evidenced that individuals with mental handicap show numerous problem behaviours. This is manifest as a result of their limitations in social, practical and conceptual skills. Their neurological structure limits the chances of curing them. Managing problem behaviours is one of the key aspects in making them as independent as possible in their personal and social lives.

Different intervention methods have been devised and tested to find out an effective method to handle problem behaviours in this population. In the present study the effectiveness of Behaviour modification techniques were studied. Several researches show that Behaviour modification techniques are effective in alleviating problem behaviours (Giles, David K. & Wolf, Montrose M, 1966, Patterson et al, 1964).

Behaviour modification refers to the use of Operant Conditioning, Biofeedback, Modeling, Aversive conditioning, Reciprocal inhibition or other learning techniques as a means of changing human behaviour (APA, 2006). It is an active intervention approach that utilises variety of specific techniques that have a firm foundation in the research literature. These techniques have been successfully employed to teach new behaviours and skills, expand current appropriate behaviours and decrease inappropriate behaviours across a wide range of populations, settings and situations (Kazdin, 1989). Classical conditioning, Operant Conditioning, Observational Learning and Social Learning describe the general theoretical positions that form the contemporary behaviour modification approaches (Morris, 1985).

The results of several researches provide promising results for the effectiveness of Behaviour Modification techniques (Giles, David K. & Wolf, Montrose M, 1966, Patterson et al, 1964). Expanding the literature and promoting awareness about such procedures may help a huge population to live better social lives. Therefore, this research may prove to be a valid contribution to the differently abled child.

Method

Participant

The case is a 3 years 6 month old male child of average built. He maintained fleeting eye contact. He was over active, continuously called slang-words/swear words, pinched others and banged his head. His attention could be aroused but not sustained. Sleep wake schedule and appetite were found to be normal. His problem behaviours were a cause of concern for his parents and caregivers as it affected all domains of his life and hindered mainstreaming.

The presenting complaints of the case was that he had poor attention, bangs head, pinches others, calls slang-words, refuses to obey commands, exhibits excessive crying during temper tantrums and does not sit at one place.

The personal history of the case reveals that he had an episode of seizure at 9 months. His mother's conception age was 20 years. She attended Antenatal assessments regularly and had a good nutritional status throughout the prenatal period. He was delivered after Full Term and it was a Normal Delivery at hospital. Birth cry was immediate and Birth weight was 2.5 kg. Birth colour was pink. He was immunized as per schedule.

His developmental history reveals that he attained motor milestones as per schedule. However, his speech milestones were delayed. He spoke his first words at 2 years of age, spoke in 2 words at 2 years 9 months of age. He started speaking in short sentences at 3 years.

On psychological assessment, it is revealed that the case is functioning with Mild Developmental Delay.

Materials

Psychological assessment was carried out using the tools, Developmental Screening Test, Vineland Social Maturity Scale and Behavioural Assessment Scale for Indian Children- Mental Retardation (BASIC-MR)- Part B. Developmental Screening Test (DST) developed by J Bharath Raj was used to measure the Developmental Quotient (DQ). It has 88 items and is applicable to individuals of the age range 0 (birth) to 15 years.

Vineland Social Maturity Scale (VSMS, Indian Adaptation) by A. J. Malin was used to measure Social Quotient (SQ).The original version

was developed by E. A. Doll. It has 89 items and is applicable to individuals of the age range 0 (birth) to 15 years. It has 8 domains, which are Self Help General, Self Help Eating, Self Help Dressing, Self Direction, Occupation, Communication, Locomotion and Socialization.

Behavioural Assessment Scale for Indian Children- Mental Retardation (BASIC-MR)- Part B developed by National Institute of Mentally Handicapped was used to identify the Problem behaviours. It has 76 items and 10 domains. The domains are Violent and Destructive Behaviour, Temper tantrums, Misbehaviour with others, Self Injurious Behaviour, Repetitive Behaviour, Odd Behaviours, Hyperactivity, Rebellious Behaviours, Antisocial Behaviours and Fears. This scale identifies the presence and their level of severity to obtain a cumulative percentage.

Procedure

Firstly, informed consent of the parents and caregivers were collected. The case history was taken. DST and VSMS was administered on the client to make an assessment of the current level of functioning of the case. Based on the case history taken, psychological assessments and the Behavioural observations, the case was diagnosed to be functioning with Mild Developmental Delay.

Following diagnosis, the Behaviour Modification Program was undertaken in 8 steps.

1. Identification of Problem Behaviours.
   BASIC-MR Part B, was administered for the Identification of Problem behaviours. Problem behaviours were identified and their severity was assessed using.
2. Hierarchy of problem behaviours
   A hierarchy of problem behaviours was made in consensus with parental reports and observation on the basis of its level of intrusiveness.
3. Identification of Target Behaviours
   Target behaviours were identified based on the hierarchy of problem behaviours. The first 4 behaviours in the hierarchy was targeted for intervention. They were:

- Banging head
- Pinching others
- Excessive crying
- Calling slang/swear words

4. Identification of Rewards
   Rewards were identified using parental reports and reward sampling.

Rewards identified were:
- Toy cars
- Balls and ball play
- A tour in the corridor
- Hugging grandmother
- Verbal praise
- Chocolates

5. Identification of Assets
   The assets or strengths of the case identified included the following. He is
- Able to respond verbally, in short sentences, to commands.
- Able to make horizontal and vertical strokes with crayons on paper.
- Able to stack up to 4 blocks.
- Able to climb up and down the steps without assistance.
- Able to jump from a height (2 feet) to the ground with stability.

6. Baseline Recording
   The Target behaviours were objectively recorded using suitable recording techniques to measure its current level.

Behaviour	Recording technique	Rate
Banging head	Time Sampling	50% of Time Observed
Pinching others	Frequency recording	9-10 times a day
Excessive crying	Duration recording	20-30 minutes
Calling slang/swear words	Frequency recording	9-10 times a day

7. Functional Behavioural Analysis
   Detailed **Functional Behaviour Analysis** was done by evaluating the Antecedent – Behaviour – Consequence. The ABC analysis followed the following format. Function/functions of the problem behaviours were identified.

Antecedent	**Behaviour**	**Consequence**	**Functions identified**
When: 10 am Where: Clinic Why: wants toy With whom: grandmother	Banging head	Grandmother tells the case to be silent, hugs him and gives the toy.	Attention & Tangible
When: 11 am Where: clinic Why: wants ball With whom: therapist	Pinching others	Grandmother takes it from therapist and gives to the case	Tangible
When: 3 pm Where: home Why: does not want to eat food With whom: grandmother	Excessive crying	Grandmother makes new food and gives the case	Escape & Tangible
When: 11.30 am Where: Clinic Why: wants to go home from clinic With whom: therapist	Calling slang/swear words	The grandmother bargains time, gives toy to distract him and convinces him to stay.	Attention & Tangible

8. Application of Behaviour modification techniques.
   After thorough analysis of the Functions identified, the Behaviour Modification techniques that would be most effective were selected.

For the first target behaviour, Banging head, the functions identified were Attention and tangible. The techniques used were

- Differential Reinforcement of Alternate Behaviour (DRA),
- Extinction from Tangible
- Custodial physical restraint.

To facilitate DRA, the rewards identified earlier were used. In Extinction from tangible, the tangible item of interest was withdrawn until the requested command is followed appropriately. To facilitate custodial physical restraint a band was prepared that can be tied around the head to prevent the negative effects of head banging.

For the second behaviour, Pinching Others, function identified was Tangible. The techniques used were:

- Differential Reinforcement of Alternate Behaviour (DRA)
- Extinction from Tangible.

For the third behaviour, Excessive Crying, the functions identified were Escape and Tangible.

The techniques used were:
- Differential Reinforcement of Alternate Behaviour.
- Extinction from escape
- Extinction from tangible

In Extinction from escape, the case was encouraged to perform the activity that he wants to escape from, without an excuse. This was

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coupled with Differential reinforcement. Extinction from tangible was also followed.

For the fourth behaviour, Calling slang/swear words, the functions identified were Attention and Tangible. The techniques used were:

- Differential Reinforcement of Alternate Behaviour.
- Extinction from Attention
- Extinction from tangible

In Extinction from Attention, the case was deprived of attention to the expression of the target behaviour. As for other target behaviours, this was coupled with Differential Reinforcement. Extinction from tangible was also followed.

Six sessions were completed in the clinic. Each session was of 2 hours duration and consisted of various activities that could facilitate Behaviour Modification techniques. Parents and caregivers were given demonstrations and training to follow these techniques at home. The importance of Consistency and Contingency was emphasized in such sessions.

After the six sessions, the rate of expression of Target behaviours were recorded again to assess their current level, post intervention. BASIC MR Part B was again administered post intervention.

Results and Discussion

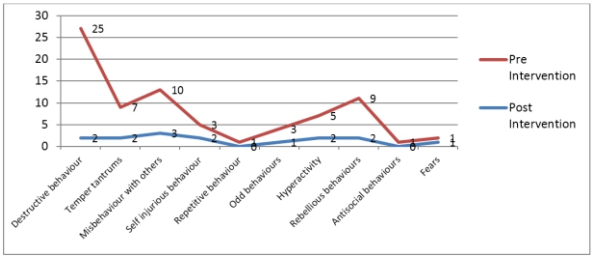
Results indicated a high level of improvement in problem behaviours post intervention. After intervention the target behaviours were objectively recorded to measure their current level. This revealed a huge rate of reduction in the expression of target behaviour. Table 1 compares the rate of expression of target behaviours before and after intervention.

Table1. Comparison of the rate of expression of target behaviours before and after intervention.

Behaviour	Recording technique	Rate (Pre Intervention)	Rate (Post Intervention)
Banging head	Time sampling	50% of Time Observed	10 % of Time Observed
Pinching others	Frequency recording	9-10 times a day	negligible
Excessive Crying	Duration recording	20-30 minutes	negligible
Calling slang/ swear words	Frequency recording	9-10 times a day	1-2 times a day

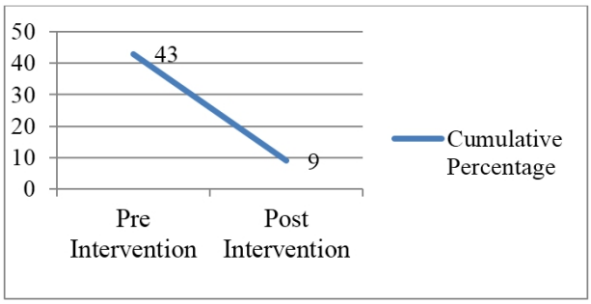
On re-assessment with BASIC MR (Part B) post intervention, it was revealed that a number of collateral behaviours had reduced in its severity in addition to the target behaviours, bringing a significant change in the cumulative percentage. Figure 1 compares the scores on BASIC MR, before and after the intervention. These collateral behaviours have been maintained by the same functions identified for the target behaviours. As the functions identified were systematically and consistently intervened, this brought a measurable difference with other behaviours as well.

Figure 1 Comparison of the scores on BASIC MR, before and after the intervention.



The cumulative percentage reduced from 43% to 9% as illustrated in Figure 2. This clearly proves the efficiency of Behaviour modification techniques to reduce problem behaviours.

Figure 2 Illustration of the cumulative percentage of problem behaviour before and after intervention



Therefore, the result of the study shows a steady rate of reduction in problem behaviours. The consistency and contingency of the Behaviour Modification techniques applied proved to be extremely crucial for its effectiveness. Apart from the target behaviours, a number of collateral behaviours, maintained by the functions identified, also reduced. Behaviour Modification techniques are effective in reducing problem behaviours of children with disability. This implies that Behaviour Modification can be used as an effective Intervention method for managing children with disability. Behaviour Modification techniques could facilitate mainstreaming.

Conclusion

The aim of the present study was to find out the effectiveness of behaviour modification techniques on problem behaviours in differently abled children. In the light of the results of the present study, it is concluded that Behaviour Modification techniques are effective in reducing problem behaviours in this population. Apart from the target behaviours, many collateral behaviours also reduced in its severity. The study must be conducted on a larger sample and should include different disabilities, so that effectiveness of Behaviour Modification techniques can be analysed and compared for different disabilities. The study proves that this method can be undoubtedly used to facilitate mainstreaming and better social living in differently abled children.

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