Improvement of Tantrum using Behaviour Therapy in a Child with Autistic Spectrum Disorder: A Case Report

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Abstract

The present case study is about a 12-year child diagnosed with Moderate Mental Retardation having autistic spectrum disorder. The problem that worried his parents was the tantrums that were not at all controllable. The child's behaviour is completely assessed, including the identification of the causes and consequences of his behaviour. After applying a number of behavioural techniques a gradual change in the behaviour of the child is observed. However, asthe child's tantrums increased in frequency and duration, the change in behaviour was not consistent. The tantrums were found to be self destructive, injurious to self and also to others. Eventually, after several failed attempts with other behaviour techniques, the Aversion technique of Behaviour Therapy (**BT**) was applied, which brought a drastic and long lasting change in the child's behaviour by controlling the tantrums.

Résumé

L'étude de cas ci présent concerne un enfant de 12 ans présentant un retard mental modéré et un trouble du spectre autistique. Le problème qui donnait des inquiétudes à ses parents était la présence de crise de colères incontrôlables. Une évaluation psychologique de l'enfant avait complétée pour comprendre les difficultés, les capacités et les émergences de l'enfant. L'utilisation de différentes techniques comportementales donnait de résultats graduels et partiels. Dans un second temps une péjoration des crises de colères en fréquence et en durée mit en échecs les approches utilisées. Les crises de colère avaient un caractère destructif envers lui-même ainsi que envers les autres. Finalement des techniques aversives furent mises en place après avoir utilisés beaucoup d'autre techniques sans résultats valable. Les résultats de cette dernière approche ont montré des résultats positifs et durables.

INTRODUCTION

Autism is a disorder characterized by pervasive delays in the development of language and socialization and the presence of stereotyped, repetitive behaviours or non-functional interests. The presence of behavioural problems as tantrum, in the population with intellectual disability is very frequent (Lehotkay, et al., 2009) and represents a serious impairment in quality of life because such problems reduce the chances for community integration and access to educational, leisure and occupational activities (Rojahn & Helsel, 1991). The greatest difficulty for the educational staff

involves the management of disruptive behaviours, which are a source of stress for training teams, families and the residents themselves.

Although a multitude of treatments for autism exist, very few have been the subject of scientific research. The only treatment that has been supported by substantial empirical research is treatment based on applied behaviour analysis (ABA) (Granpeesheh D, Tarbox J, Dixon DR 2009). An objective behavioural observation of the persons with Intellectual Disability (ID) will helps us not only to respond with care to the needs of this population but also to bring effective behavioural changes.

It was necessary to identify the unintentional stimuli reinforcing the inappropriate behaviours that were provided by the caregivers to be able to alter them in order to reduce the problematic behaviour of Peter, while retaining and enhancing the stimuli leading to appropriate adaptive behaviours.

ABA is based on Behaviour therapy principles that are intended to change the causes and thus the consequences of the behaviour. It assumes the role of learning as an important factor in the aetiology, maintenance and treatment of some behaviour disorders. *Bringing beneficial change in behaviour is the goal of behaviour therapy. The methods used in this therapy are mainly based on Pavlovian classical conditioning (1927) and Skinnerian operant conditioning (1938).*

LITERATURE REVIEW

While scientific evidence for the efficacy of aversive procedures for a variety of psychological conditions exists, their use remains controversial (Starker & Pankratz, 1996). The guidelines have been developed in the context of the need to protect human rights to autonomy and dignity. Furthermore, these guidelines have been developed with reference to the *Code of Ethics,* particularly the imperative to safeguard the welfare of clients (General Principle I), to act within one's competence and to offer competent services (General Principle II). At times, these guidelines need to be considered together with other relevant guidelines and specific sections of the *Code* (e.g., Ethical Guidelines Relating to Procedures/Assessments that Involve Psychologist - Client Physical Contact; relationships with clients [section B8 of the *Code*]; draft Guidelines for Psychological Practice with Lesbian, Gay, and Bisexual Clients). In particular, legal, ethical and social implications abound regarding the use of aversive procedures (Gerhardt, Holmes, Alessandi, & Goodman, 1991),

There is debate in the scientific literature as to whether the use of aversive procedures is necessary, although much of this debate is in the area of developmental disabilities. For a discussion of this debate in the developmental disabilities area, see La Vigna and Donnellan (1984), Scotti, Evans, Meyer, and Walker (1991), Repp and Singh (1990), Durand (1990), Gerhardt et al. (1991), and the special issue of the *American Journal of Mental Retardation* (Issue 2, 1990).

Although differential reinforcement of behaviours incompatible with disruptive behaviour is attractive to many because it does not involve aversive procedures, it has shown mixed results and may be effective only when combined with other procedures. Contingent removal of reinforcement (timeout)

has been found moderately effective for dealing with self-stimulation and aggression but is of more limited value in treating severe self-injury. Overcorrection also has a beneficial effect on a variety of serious management problems. It is suggested that although Aversive Stimulus has been the focus of considerable debate, it may have value under certain conditions (Behavioural suppression of seriously disruptive behaviour in psychotic and retarded patients: A review of punishment and its alternatives. Harris, Sandra L.; Ersner-Hershfield, Robin Psychological Bulletin, Vol 85(6), Nov 1978, 1352-1375.)

METHOD: Case Study

The child with severe self-injurious tantrums was selected for the application of Behaviour therapy. The behaviour was analysed using ABA. Different techniques of behaviour therapy were used and finally use of Aversion therapy resulted in reducing the self-injurious tantrums, as we report here.

Case Report.

Peter is the only child of his father and his second wife. At the time of marriage the father was 50 years old and Mother was 30 years old. The father has two sons with his first wife and both are normal. Both parents and are daily wage labours. Peter weighed 3 Kilograms at birth, which had followed an uncomplicated, full-term pregnancy. Delivered by caesarean section, he came home after 5 days in the hospital.

Peter's parents reported that his early development seemed quite delayed. He had been slower than his older stepbrothers in achieving some developmental milestones (such as sitting up alone and crawling). Furthermore, his motor development seemed uneven. He would crawl normally for a few days and then not at all crawl for a while. Though he made babbling sounds, he had not developed any speech and did not even seem to understand anything his parents said to him. Simple requests, such as "Come" or "Do you want a biscuits?" elicited no response. Initially, his parents thought that Peter might be deaf. Later they vacillated between this and the idea that Peter was being stubborn. They reported many frustrating experiences in which they tried to force him to obey a command or say "Mama" or "Dada." Sometimes Peter would go into a tantrum during one of these situations, yelling, screaming, and throwing himself to the floor. Peter's parents noticed him engaging in more and more strange and puzzling behaviour. Most obvious were his repetitive hand movements. Many times each day, he would suddenly flap his hands rapidly for several minutes (activities like this are called self-stimulatory behaviours). Other times he rolled his eyes around in their sockets. He still did not speak, but he made smacking sounds, and sometimes he would burst out laughing for no apparent reason. He was walking now and often walked like a drunken man. Peter's social development was also worrying his parents. Although he would let them hug and touch him, he did not play at all with peer group children, seeming to prefer being left alone. Even his solitary play was strange. He did not engage in make-believe play with his toy. Instead, he was more likely just to manipulate a toy, such as a car, holding it and repetitively spinning its wheels. He was content to sit in the room for as long as permitted, watching intently as the fan spun around and around. He would often have temper tantrums when the fan was turned off.

Peter was found to be in good physical health. A psychiatric evaluation was performed several months later. Peter was taken to a treatment facility specializing in behaviour disturbances of childhood and was observed for a day.

During that time, the psychiatrist was able to see first-hand most of the behaviours that Peter's parents had described — hand flapping, smacking sounds, and preference for being left alone. When the psychiatrist evaluated Peter, she observed that a loud slapping noise did not elicit a startle response as it does in most children. Peter did, however, obey some simple commands such as "Come" and "Go." She diagnosed Peter as having moderate autistic symptoms with moderate mental retardation and recommended placement in a special school setting.

Conceptualization and Training

Peter was 11 years old by the time his parents brought him for an opening at the Special school. He attended the special school 5 days a week, spending his remaining time at the school hostel. The school provided a comprehensive educational program conducted by a psychologist with the help of specially trained teachers for implementing the program. The program was organized mainly along operant conditioning principles. The Psychologist, with the help of trained teacher, conducted another revaluation of Peter, observing him in the Therapy room, classroom and other places like ground, dining room and in the school. Interviews with the parents established that they were both well adjusted and that their marriage was stable. Both parents were, however, experiencing considerable stress from having to cope with Peter on a day-to-day basis and from their fears that his condition might have been caused by something they had done.

Basic assessment conceptualized that Peter had achieved his development in self-help skills like toileting, eating, bathing and partially in dressing. His personal and social skills were not developed to chronological age. He is aware of dangers. He helped parents in some household works like carrying water, bringing required items from a nearby shop (no money exchange was done). He was not maintaining a proper eye contact and his behaviour was destructive and violent during the tantrums. When he had a temper tantrum he used to break objects at home. He used to tease and injure animals like dogs, hens, goats and other pet animals. He also had a habit of eating inedible things like paper, plastic bags, crawling creatures, etc.

The report from the psychiatrist was taken as final for assessing the child to have Autism Spectrum Disorder

BT: Reinforcement Scheduling for improving eye contact and receiving instructions.

One of the first targets of the training program planned for Peter's was improving eye contact. When working with Peter, the therapist provided small food rewards when Peter spontaneously looked at him. He also began requesting eye contact and again rewarded Peter when he complied. Along with this training, the therapist worked on having Peter obey other simple commands. The therapist would wait for a time when Peter seemed attentive and would then, establishing

eye contact, say the command and model the desired behaviour by demonstrating it. For example, the therapist would say, “Peter, stretch your arms up like this,” lifting Peter’s arms up and rewarding him with praise and a small amount of food, such as a grape. This procedure was repeated several times. When Peter began to become more skilled at following the command, the therapist stopped raising Peter’s arms for him and allowed him do it himself. These training trials were conducted daily. As Peter’s response to a particular command became well established, the therapist would expand his learning to following commands in other situations and by other people. Peter’s progress was slow. It often took weeks of training to establish his response to a simple command. After his few months in the school, he responded reliably to several simple requests such as “Come,” “Give it to me,” and “Put it in your pocket.”

Peter’s stability in the class was another challenge to the teacher. He was always running out of the class, wandering in all the other classrooms, school ground, other therapy room, etc. To increase his stability Peter was give a plastic scissor and was asked to cut the paper into tiny pieces and collect them in a bag, as he was able to use a scissor and was also interested in it. When Peter used the scissor appropriately and finished his target of the day he was reinforced with praise and a token. This was practiced for a week, where he learned to sit stable. His stability was initially was three to five minutes but gradually increased to completion of the task. To give a result to his work and make him stable in the class, the therapist and Peter made their handprints on a chart and Peter was asked to stick the pieces of paper with glue on the prints. This handprints were named and hanged in the classroom of Peter which had caught his attention and he was enjoying by showing the handprints made by him to everyone and was stable in the class. Whenever Peter left the class, the handprints were hidden. This process of placing and hiding had been repeated till there was an increased in his stability in the classroom.

BT: Token Economy for improving Concentration and Stability.

Academic skills.

At the same time that Peter was learning to respond to commands, other aspects of the training program were also being implemented. While Peter was in the classroom, his teacher worked with him on trying to develop skills that would be important in learning, for example, sitting in his seat, maintaining eye contact, and listening and working for longer periods of time. His teacher used the same reward strategy to teach Peter each activity. As these skills became better established, the teacher also began working on expanding Peter’s vocabulary by teaching him the words for pictures of common objects. A picture of one object, such as an orange, was placed on a table in front of Peter. After Peter had looked at the object, the teacher said, “This is an orange” Pointing to the orange. When Peter pointed to the orange, he was rewarded. If necessary, the teacher would move his hand for him at first. Next another picture, such as a cat, was selected and the same procedure followed. Then the two pictures were placed in front of Peter and the teacher asked him to point to one of them: “Point to the orange.” If Peter pointed correctly, he was rewarded. If he did not, the teacher moved his hand to the correct object. After Peter had correctly pointed to the orange several times in a row, the teacher asked him to point to the cat. With that response established, the teacher switched the position of the pictures and repeated the process. When Peter had begun to point

correctly to the orange and the cat, a third picture was introduced and the training procedure was started anew. In a Short time Peter learned the names of 38 common objects with this procedure.

Teaching Peter to dress and undress himself was another target. Initially, his teacher helped him through the entire sequence, describing each step as they did it. Next, they would go through the sequence again, but now Peter had to do the last step himself (taking off his shoes, putting on his shoes). More difficult steps (tying shoes) were worked on individually to give Peter more practice on them. When some progress was being made, the parents carried out this aspect of the treatment. They first observed the teacher working with Peter and then discussed the procedure and were shown how to make a chart to record Peter's progress. Over a period of weeks, the number of steps that Peter had to complete by himself was gradually increased, moving from the last toward the first. Peter was rewarded each time he dressed or undressed, usually with a special token, such as pencil box, toys, playing with the favourite toy, etc.

There were many ups and downs in Peter's progress, His temper tantrums slowed his progress during his first year in the special school. They occurred sometimes when he was given a command or when a teacher interrupted something he was doing. Not getting a reward during a training session also led to tantrums. Peter would scream loudly, throw himself to the ground, and flail away with his arms and legs. Several interventions were tried. Peter's tantrums usually led to getting his own way, particularly at home.

Avoidance Approach: Time-out

Ignoring the tantrum was the first approach. Peter's teachers and warden simply let the tantrum play itself out, acting as if it had not happened. This did not reduce the number of tantrums, so "time-out" was tried. Every time a tantrum started, Peter was kept in a special room, and left there for 10 minutes or until the screaming stopped. This procedure also failed to have much of an effect on the tantrums and screaming, even with several modifications such as lengthening the time-out period

Play therapy to improve social skills

Peter was by now responding to more commands, and his ability to recognize and point to simple objects had increased. Peter's failure to play with other children was now another major focus. The first step was to get him to play near other children. Most of his playtime was spent alone, even when other children were in the playroom with him. His teacher watched Peter carefully and rewarded him with small bits of food whenever he was near another child with autistic disorder. A procedure was also used to force Peter to interact with another child. Peter and another child would be seated next to each other and given the task of pumping a ball. Each child was, in turn, given a ball and prompted to pump it with the help of pump. In addition to praising them individually as they pumped each ball, both children were rewarded with praise and food when they had completed their task.

After repeating this process several times, the program was expanded to include the cooperative completion of simple puzzles (Cubit-9, Pipe-links). Turn taking was thought with simple instruction like "Peter put the pump in here. Okay now, Sam, put the ball here.", during the play. Gradually the

prompts were faded out, and the children were simply rewarded for their cooperative play. Although this aspect of therapy progressed well, transferring these skills to the natural play environment proved difficult. Attempts were made to have Peter and another child play together with toys such as a pipe-links or building blocks. The teacher encouraged them to move the objects around, talking to them about what they were doing and rewarding them for following simple commands. Although Peter would usually follow these commands, his play remained solitary, with little eye contact or cooperation with the other child.

BT : Aversion Therapy

His tantrums, which had not responded to previous interventions, were becoming worse. In addition to screaming and throwing himself on the floor, he now became violent at times. On several occasions, he had punched, bitten, or kicked his fellow hostel mates. The hostel warden reported that during these tantrums he became so out of control that they feared he might seriously injure someone. Similar episodes occurred in school, usually when an on-going activity was interrupted or he failed at some task. The seriousness of the tantrum problem and the fact that other treatments had not worked led to the implementation of Aversive therapy. Because loud screaming almost always preceded Peter's tantrums and violent outbursts, it was decided to try to break up the usual behaviour sequence and an aversive stimulus was attached to the screaming. Whenever Peter began to scream, a bitter was squirted into his mouth. The effect of this procedure, which was used by both his teachers and warden, was dramatic. The first day of the treatment, Peter began screaming and was squirted six times. His response to the bitter was one of shock and some crying, which stopped quickly after he was allowed to rinse out his mouth. The next day, he was squirted with the bitter twice. The third and fourth days, he did not scream at all. The fifth day, he had one screaming episode; thereafter, his screaming was reduced to an extreme and temper tantrums were rarely seen for the rest.

DISCUSSION:

Aversion Therapy

In aversion therapy, the undesirable behaviour is paired with an unpleasant consequence. It may take the form of imaginable aversion (also called covert sensitization) or physical aversion e.g. electric shock. Aversive procedures involve the presentation of an unpleasant consequence contingent on the occurrence of a targeted behaviour. Aversive procedures are not intended to cause pain or harm to the individual. A distinction can be made between overt and covert aversive procedures, with most controversy focused on overt aversion (e.g., electric shocks, water sprays, Antabuse, pinches, snapping elastic band around wrist) that causes the individual to experience varying degrees of discomfort or distress from an external source. Covert aversive procedures, on the other hand, usually involve an internal noxious stimulus (e.g., imagining an awful contingent event) and are generally self-initiated. Aversive procedures are used in combination with other behavioural and cognitive strategies, and have been found to be useful in the management of impulse control problems (e.g., nail biting, compulsive hair pulling), smoking cessation, weight loss in obesity, binge eating and alcoholism. Aversive procedures are used most commonly in the areas of development

disabilities (Repp & Singh, 1990) and to deal with disorders of sexual arousal such as paedophilia and exhibitionism (Eccles & Marshall, 1994; Maletzsky, 1998; McConaghy, 1990). The concomitant use of other strategies, often targeting the development of adaptive behaviour, is an important component of most intervention programs that include aversive techniques (Durand, 1990). Aversive procedures need to be distinguished from electro-convulsive therapy (ECT), a psychiatric treatment used most commonly for severe major depression.

However, given that practitioners may choose to use aversive procedures, the following guidelines should be adhered to when using them *(American Journal of Mental Retardation* (Issue 2, 1990)).

General Principles

- Aversive procedures should be used only if the scientific literature supports their use for a specified condition.
- Aversive procedures should only be used when the targeted behaviours are clearly of danger to the client or others, and there is well-documented evidence that non-aversive interventions by competent practitioners have been tried and failed.
- Aversive procedures should only be used within a broad program of intervention and management. In addition to the use of aversive procedures for reducing challenging behaviour, there must be concomitant intervention programs to promote the adaptive skill levels of clients.
- In all instances where aversive procedures are used, the client or a legal guardian of the client must have given informed consent prior to commencement of their use.
- Developmentally and culturally appropriate explanation of the aversive procedure and its objectives must be provided to clients.
- Psychologists using aversive procedures must always be familiar with and comply with any legislative requirements regarding the use of aversive procedures.
- Psychologists who use aversive procedures should have an advanced level of training in the use of behavioural therapies.
- In all instances where aversive procedures are used with developmentally and intellectually disadvantaged populations and children, a broadly based group should monitor the use of such procedures. This group should include specialists in the use of aversive procedures, and people who safeguard the rights of the client. In the case of non-intellectually disadvantaged consenting adult clients, it is advisable that the treating psychologist using aversive procedures seeks advice and/or supervision from colleagues.

Conclusion.

The present case study is about a 12-year child diagnosed with autistic spectrum disorder and with moderate mental retardation. The child was very stubborn and used to play a lot of tantrums that worried his parents as they where unable to control these tantrums. The child's behaviour was thoroughly assessed and the causes, consequences and rewards for which the child was of interested were identified. As a first effort the child was reinforced with an edible token of his interest

for exhibiting appropriate behaviours. In the second attempt the child was educated to label about forty commonly used objects and animals by using pictorial communication method. In the third attempt the child ability to sit for sometime is focused. By making him to learn an interesting craft item the child's ability to sit for some time is gradually increased from just few minutes to half an hour, which was reinforced by using his sense of achievement with positive statements and by making his craft item visible for others. Though a gradual improvement was observed in his behaviour, it was not a sustained change. Later on his tantrums were increased and were not only self-destructive but also a threat to others. Hence behaviour therapy (aversive therapy) was finally used, which brought a drastic but long lasting change in the child for controlling the temper tantrums.

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