

Aversion to Sticky Substances in Children with Autism: Result of a Single Session of Behaviour Therapy

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Abstract: *It is well known that the children with autism tend to have aversion for sticky substances like gum, rice mixed with curry or stew etc. As a fact this leads to difficulty in teaching them self-care skills like eating and toilet skills (especially washing after voiding). Four children (boys of age range from 4.5 to 5 years) with Autism and associated features of ADHD were brought by their parents on different occasions. Parents' main expectation is that their children should become independent in self-care skills and their major complaint is that their children have not achieved the eating and toilet skills, moreover they don't even cooperate for training the same. They were treated individually, with the combination of systematic desensitization and exposure and response prevention along with positive reinforcement. The target to get accustomed to sticky substances was achieved within the first session itself. After achieving the target parent were given a home program of shaping for children to achieve the expected self-care skills. Surprisingly parents reported that the goal achieved within a week's time, i.e the children are independent in eating and partially independent in washing after voiding skills.*

Keywords: *Autism, aversion, behaviour therapy, systematic desensitization and exposure and response prevention*

I. Introduction

Autism is a developmental disorder that appears in the first 3 years of life and affects the brain's normal development of social and communication skills. Purposeless, abnormal and odd repetitive movements are also seen in children with autism. In some children, autistic features can be noticed as early as in 14 to 16 months. Autism affects boys more often than girls. Childhood Autism Rating Scale (CARS) lists out problems in 15 areas of daily functioning to diagnose autism viz. relating to people, imitation, emotional response, body use, object use, adaptation to change, visual response, listening response, sensory response (taste, smell and touch response and use), fear or nervousness, verbal communication, non-verbal communication, activity level, intellectual response and general impression (based on the above 14 areas of functioning).

Two studies report on toilet training in children with autism. Azrin and Foxx's (1971) method of Rapid toilet training was used for two boys aged 4 and 6 years old. While the 4 year old achieved toilet training in 10 days, the 6 years old boy did so in 5 days. Another study focused on continent, imitation and communication but it was not mentioned whether they had become independent in wiping or washing after voiding (Kroeger and Sorensen, 2010). In another study, training was given to remove under garments to avoid soiling or wetting (Taylor, Copary and Clardy, 1994).

Graded exposure has been thought of as the first choice along with Exposure and Response Prevention (ERP) to deal with situations involving aversion to sticky substances. Graded exposure (otherwise called Systematic desensitization) was developed by South African Psychiatrist Joseph Wolpe and has been widely used for people with severe anxiety disorder, phobias and Post-Traumatic Stress Disorder (PTSD) (Mclay et al, 2011). Exposure Response Prevention (ERP) has been widely used in patients with Obsessive and Compulsive disorder. Boyd et al (2011) have used ERP to control repetitive behaviours in children with autism.

As children with autism have abnormal touch response and are highly aversive to sticky substances and furry objects, they tend to avoid touching or playing with gum, eating rice mixed with curry or stew and playing with stuffed toys made of fur. The reason for avoiding sticky substances, it is assumed is to escape anxiety that this invoked in these children. Many parents have reported that their children with autism are not independent in toilet needs even when they are grown up and are even more than five years old. They don't use their hand for eating rice, which is the staple food for their families. Even if their children are forced to eat with their hands, they immediately wipe them on their shirts/ clothes which is awkward. Parents' main expectation is that their children should become independent in self-care skills and their major complaint is that their children have not achieved the required eating and toilet skills. They also said that these children were resistant to such training in spite of several attempts at home training. This could be particularly embarrassing when there are visitors at home or when there are occasions that require eating in public.

A combination of Graded exposure and ERP has not been used in children with autism previously to improve self-care or to eliminate aversion to sticky substances in them and there is no mention of this in the extant literature particularly in the Indian context. This study reports the result of this combination carried out with a small sample of children with autism in a Neuro-psychiatric facility (hospital, teaching and research) in South India.

II. Material And Methods

Ethical clearance for the study was received from the ethics review panel of the institution. Informed consent was obtained from parents after explaining the nature of the study. They were given the option to withdraw at any point that they wished to without the need to explain why they chose to. They were also explicitly told that their non-participation would in no way affect any of the other services that they were receiving from the hospital. During the last 1 year period (2012-13), 4 boys aged between 4.5 to 5 years with associated features of ADHD were brought by their parents on different occasions and were recruited as participants for the study. Parents were required to be present at the therapy session as the procedure involved repetition at home. The hand of the child was held by the therapist and a drop of gum was applied on the tip of the child's fingers and the child's reaction was then observed. The child was controlled with a firm and gentle grip in order to prevent him from wiping the glue off his clothes. After a minute's observation the gum was then applied on the entire surface of the fingers and again and the movements of his hands were restrained as before. Later the gum was applied on the entire palm of the hand and allowed to wait for a minute. When the child did not show any resistant behaviour, then both his hands were joined together so that he would feel the stickiness with the therapist controlling the child to avoid any resistant behaviour. After two 2 minutes of restraining, the child was allowed to clean his hand without water or cloth just by rubbing his hands together to shed the dried gum particles. After each attempt the child was rewarded with the item of his preference by the therapist. Parents were advised to do the entire process at home and then report for follow up.

After this target was achieved, parents were given home training program to improve self-care skills (eating and toilet skills). Shaping (Cascading and Prompting) was advised and demonstrated to them as before relating to eating and washing skills.

III. Results And Discussion

Parents returned a week after home training of the child as instructed having carried out the demonstrated session and reported that there was no any resistance from the children. The reports were positive and indicated that the resistance to the sticky substance had been extinguished. The therapist repeated the session again within the clinical setting and it was noted that all four boys now showed no resistance to the substance applied to their palms. After a week's time, parents reported that their children achieved complete independence in eating and were partial independent in washing after voiding (i.e. they are able to wash when water is poured).

IV. Conclusion

This study has demonstrated how a single session of brief Behaviour therapy can enable children to overcome their aversion for sticky substances. The results of this small experiment have been encouraging. It is however yet to be seen if these findings can now be generalised to other sticky substances and if these behavioural techniques can indeed be used in a larger population for children with aversion for sticky substances. Finally the study establishes that psycho-education of parents as part of brief behaviour therapy intervention can be beneficial for children with autism in self-help skills.

Limitations: The study was done with a small sample of boys and needs to be replicated with a larger sample. Follow up studies at one month to one year from baseline will add validity to the results. Toilet training involving defecation and self cleaning have not been explored and is a pointer to further research.

References

- [1]. Azrin, N. H., & Foxx, R. M. (1971). A rapid method of toilet training the institutionalized retarded. *Journal of Applied Behavior Analysis*, 4, 89-99.
- [2]. Boyd, B.A., Woodard, C.R. and Bodfish, J.W.: (2011). Modified Exposure and Response Prevention to Treat the Repetitive Behaviors of a Child with Autism: A Case Report. *Case Reports in Psychiatry*, Article ID 241095, 5 pages <http://dx.doi.org/10.1155/2011/241095>
- [3]. Kroeger, K. and Sorensen, R. (2010). A parent training model for toilet training children with autism. *Journal of Intellectual Disability Research*, 54, 556-567.
- [4]. McLay, R.N., Wood, D.P., Webb-Murphy, J.A., Spira, J.L., Wiederhold, M.D., Pyne, J.M. and Wiederhold, B.K. (2011). A randomized, controlled trial of virtual reality-graded exposure therapy for post-traumatic stress disorder in active duty service members with combat-related post-traumatic stress disorder. *Cyberpsychol Behav Soc Netw*. 14(4), 223-229.
- [5]. Taylor, S., Cipani, E. and Clardy, A. (1994). A stimulus control technique for improving the efficacy of an established toilet training program. *Journal of Behavior Therapy & Experimental Psychiatry*, 25, 155-159.