Video Modelling And Prompts As A Tool For Fostering Toilet Training Of Children With Autism Spectrum Disorder
Running Title: -Video Modelling And Prompts

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Abstract:-
Autism spectrum disorder (ASD) is a neurodevelopmental disorder that causes substantial difficulties for many of those affected. Children with ASD often lag behind in the acquisition of life skills and require individualised instruction and assistance. Current research on toilet training for children with ASD focuses on small case studies incorporating video modelling and prompts. After the pandemic, there is a paucity of research to support an effective online toileting skills program, which has become a necessity. The purpose of this article is to discuss the results of a video modelling intervention technique used to train five children with ASD who had previously failed to acquire the toileting skill in their home or school environments. The intervention emphasised (a) identification and proper use of the bathroom, (b) scheduled bathroom visits, (c) a maximum of three minutes on the toilet, (d) reinforcement and stimulates, and (e) constantly building time intervals between toilet breaks as each participant, demonstrated mastery using video modelling, visual and auditory prompts. Families and special educators endorsed the intervention, and the outcomes of the research suggest that video modelling might be used in both home and school settings to improve toilet training for children with ASD and other related difficulties.

Keywords: - Autism Spectrum disorder, Toilet Training,Video modelling

Introduction
Autism spectrum disorders (ASD) are a collection of neuro-developmental disabilities characterised by impairments in social interaction, communication deficits, rigid behavioural patterns, and restricted interests. Autistic Disorder or "autism" is defined by qualitative impairments in three areas offunction: (1) social interaction, (2) communication, and (3) restricted repetitive andstereotyped patterns of behavior, interests, and activities (Lindgren & Doobay, 2011).Disorders like autism may be genetic or due to environmental compulsive factors.Early identification of autistic disorders shows positive effect on the learning outcomes. As basic tasks of daily living depends on their language skills, age of diagnosis, and the extent of certain autism traits between the age of two and four (spectrum new,2019).Any assessment or treatment of the childrenwith autismbegins with proper identification of the strengths and weaknesses of the child's activities. Though there various diagnostic medical tests to identify and treat autistic children as the case may no generalisation of its use can be done as uniqueness prevails in terms of severity, nature of individual, socio environmental factors as parental care, education, culture, social living etc. Integral to the training of individuals with Autism Spectrum Disorder (ASD) is the acquisition of independent living activities, which can contribute greatly to their independence, self-confidence, and general life satisfaction. Thus treating autistic children requires systematic assessment, observation, of the child's needs, nature, behaviour, social communication and developmental level of the child.Life skills which are associated with acquisition of various competencies are the ability of learners to adjust attitudes and behaviors that allow him to overcome everyday problems. (Jaya et.al.2018)

Toilet training for children with ASD
Families anticipate a day when their youngster is finally potty-trained. Every child is special. Some youngsters are simple to train, while others present a few obstacles. Toilet training, also known as potty training, can be challenging. Generally, a child is considered toilet trained when he or she can convey the need to use the restroom, walk independently to the bathroom, take down pants, pee in the toilet, flush, and pull up pants without prompting.

Effective daytime toilet training, according to Blum, Taubman, and Nemeth (2004), is when a child has fewer than four wetting accidents per week. By their third birthday, 98 percent of normally developing children in the United States achieve this requirement (Blum, Taubman, & Nemeth, 2004).

Toilet training is an important milestone for the kid, parents, and caretakers. It can be an exciting moment for parents, as they anticipate financial savings and their child is growing independence. It may also be difficult, particularly for youngsters diagnosed with autism spectrum disorder. It may take longer for many children with autism to learn how to

use the bathroom. There are numerous causes for this. Children with autism spectrum disorder (ASD) frequently dislike change and prefer regularity. Occasionally, sensory difficulties and repetitious behaviour in children make transitions particularly difficult. In addition, due to their limited expressive language, children with autism have difficulty communicating when they need to use the restroom.

Review of Literature
To acquire a better understanding of the difficulties associated with toilet training a youngster with autism spectrum disorder, it is necessary to become familiar with the many approaches and philosophies of toilet training. For the literature evaluation, the researcher examined a number of research-based methods that have been utilised successfully in the procedure of toilet training autistic children. The researcher examined five interventions: removal of pull-ups and usage of underwear, scheduled sits visual task management, positive reinforces, and video priming.

For several decades, intensive behavioural therapies have been employed to educate toddlers and adults with learning difficulties how to use the bathroom. The majority of studies on toilet training for children with autism and developmental impairments has concentrated on a limited number of children and employed modified versions of the quick toilet training method created by Azrin and Foxx, according to Davina Richardson (2015).

Several studies employ reinforcement-based training as another component of toilet-training (Azrin & Foxx, 1971; Cicero & Pfadt, 2002). Chung (2007) included reinforcement-based training as one of the protocol components for toilet training a 12-year-old boy with developmental difficulties, providing the youngster with incentive contingent on a successful void in the toilet. Results indicated a rise in successful voiding in the toilet that was consistent across contexts.

Bennett & Dukes (2014) conducted a systematic review of studies on teaching daily living skills and identified that limited research is being done in instructional tactics on teaching daily living skills to autistic children.Johnson(2015) probed the effect of stories changing behaviours, teaching social skills, communication and tasks and confirmed its effectiveness and also noted that stories decreased the anxiety in the child. Early childhood nonverbal mental age was the strongest predictor of daily living skills attainment (Hus et.al., 2015).By learning the various skills expected, children with special needs can gain a perceptual experience, appreciative experience, and creative experience (Jaya, 2018). Life skills can be academic as well as non academic. It is vital to teach these skills to children with special needs. Receipt of life skills training differs across students' gender, age, diagnosis of intellectual disability, and functional mental skills. Students received life skills training in general education classrooms, special education classrooms, individual instruction, and community settings (Chiang, Ni& Lee, 2017). Studies confirmed that video modellingwas effective on teaching social skills, play skills, language and communication skills, functional skills, self-care skills, and daily life skills to children with autism (Acar & Dikena, 2012).

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Methodology
Making of the Video
Microsoft Visual Studio was utilised to build basic video modelling used in the treatment. Initially, still photographs and motion movies of the children were captured, incorporated, and executed in a methodical manner. The video was developed for each child based on their photographs, resulting in three distinct videos. Upon seeing their own image on

the screen, children become more motivated and strengthen their photographic memory. The software is a free version and the cost of preparing the video is economically cheap. Thus, special teachers can create such videos at low cost.

Video Modelling

The video instruction was designed as a series of steps to help the children's gradual learning. It consists of the following eight steps:

Step 1: Open the Door. In this step, the child has to identify the door of the toilet by looking at the picture. Then he has to open the door.

Step 2: Then comes closing the door. After opening, the door has to close the door. Care is taken as not to lock the door as the child can be addressed in times of need.

Step 3: The third step instructs to remove the dress. The picture shows as if the child has to remove the under pant.

Step 4: The child has to sit on the toilet seat. The picture visualise the position to be seated on the toilet. Thus the video and the audio are combined in such a way to minimise the confusion in carrying out the steps.

Step 5: In this phase, the child is instructed to wash his or her private regions after defecating.

Step 6: After washing, the child should wear the dress again.

Step 7: The child is advised to flush the toilet. In this step the child has to locate the flush and to flush completely.

Step 8: Finally, the child must wash their hands with water and soap.

Thus, the video carefully guides the child through toilet training. The audio and accompanying image provides a visual signal that psychologically prepares the child to do the activities. The entire procedure can be repeated if necessary. The video is designed such that the child practises the sequence before moving on to the next. The steps enhance the child's learning, with the assistance of the caregiver, parent, and individual. The researcher has attempted to develop consistency and methodical instruction for children with autism with the help of visual, animated and auditory cues..

Scales Used

Updated Kuppuswamy's Socio economic Scale (2020) was used to assess the socio economic status of the child's family. Three cases who were already identified with ASD participated the study. Duration of the training is 21 days. For the first week the cases were given video prompting followed by oral prompting in the second. And third week the children were left alone to practice toilet skills. Mobile phones served the purpose those the video can be used in multiple interfaces. The duration of the video is 4 minutes capturing the attention of the child. The case history of the sample is presented below.

On the part of the training to the parents,models were set up. The oracles of the parents were brought in to enable them to teach the students advertantly in accordance with the footage. The investigator received feedback from the parents on daily basis and assisted them. Parents were also given extensive motivation and encouragement. Picture exchange communication, structural communicationmethods were also taught to them through video conferencing.

Case A

Case A is a 10 year old boy, Hindu by religion of class III (lower middle) socio economic status by modified Kuppuswamy's Scale, belonging to a joint family in Karur district, came with his 31 year old motherwho is an housewife and has completed 12th standard as the informant.Case A is a known case of autistic spectrum disorder (ASD) associated with speech disabilities, violent behaviour, hyperactivity, mild intellectual functioning and epilepsy. History of diagnosis of ASD 6 months back and was referred to special school for education. He was treated for epilepsy for 11 months.Antenatal history shows as attempt to abortion by the mother. ($G_2P_2L_2$)Intranatal history includesfull term delivery by caesarean section in a private hospital. Birth weight was 2.10 kg, pink colour and cried at birth.Immunization was completed as per schedule. No adverse reactions were identified. Gross motor developmental milestones include control over head at 6 months, sitting was done at 1 year, standing in 1.5 years and walking at 2 years.Speech and language developmental milestones were seen as 1 or 2 syllables at 3 years.Social and adaptive developmental milestones presents as the child did not attend any school, had good involvement in play and leisure activity, interpersonal relationship with family members and good interaction with neighbours and good participation in socio-religious activities. The child's personal needs havebeen met by the family.Environment history is that they lived in own, pucca house with 4 rooms (overcrowding absent).
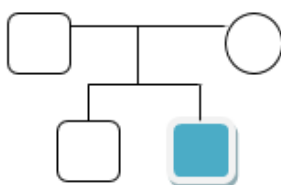
Family pedigree-
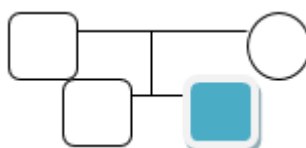
Case B

Case B is a 12 year old boy, Hindu by religion of class III (Lower middle) socio economic status by modified Kuppuswamy's Scale, belonging to a nuclear family in Karur district, came with his mother who is a housewife and has completed 12th standard as the informant.Case B is a known case of Autism (Apraxia) associated with hyperactivity and repetitive behaviour. History of diagnosis of Autism (Apraxia) was identified 6 months back and referred to special school for education. Normal Antenatal history was seen. $(G_2P_2L_2)$.Intra-natal history is pre term (32 weeks) normal vaginal delivery in a private hospital. Birth weight of the child was 2.65 kg, pink colour and cried at birth.Immunization was completed for age. No adverse reactions identified. Gross motor developmental milestones are as follows head control at 4 months, sitting at 8 months, standing 1 year and walking at 1 1/2 years.Speech and language developmental milestones are known 1 or 2 syllables at 1year and first words at 1 ½ years.Social and adaptive developmental milestones are that the child did not attend any school, had good involvement in play and leisure activity, good interpersonal relationship with family members and good interaction with neighbours and good participation in socio-religious activities, personal needs of the case well met in family.

Environment history is the child dwelled in own, pucca house with 4 rooms (overcrowding absent)

Family pedigree-

Case C

Case C is a 7-year-old boy, Hindu by religion of class IV (Upper Lower) socio economic status by modified Kuppuswamy's Scale, belonging to a nuclear family in Karur district, came with his mother who is a homemaker and has completed 7th standard as the informant. He is a known case of speech problem 6 months back and referral to special school for education. Antenatal history shows an attempt of abortion by the mother. $(G_2P_2L_2)$.Intra-natal history is a full term normal vaginal delivery in a private hospital. Birth weight was 3.50 kg, pink colour and cried at birth.Immunization was completed for age. No adverse reactions were identified.Gross motor developmental milestones- head control at 4months, sitting at 2 years, standing 2year and walking after 3 years. Speech and language developmental milestones are that speech after 3 years. Had a delay in self feeding, self dressing and toilet control, delayed smiling, responding to name and interaction with others. Social and adaptive developmental milestones comprises of not attending school, good involvement in play and leisure activity, good interpersonal relationship with family membersbut the neighbourhood interaction was poor. At the same time the child rarely makes problem with neighbours.Environment history is own, pucca house with 4 rooms (overcrowding absent)

Family pedigree-
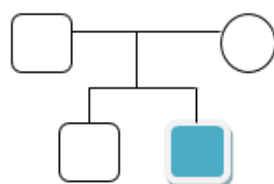
Procedure of Treatment

The toilet skills were recorded using twelve statements where the child's individual improvement was marked accordingly. In the first week physical prompt was given. It was followed by Verbal prompt in the second week. The child was given clues in the third week which finally ended up with independent ability of practicing the skill taught. Though there were minor variations among the three cases in individual acquisition of the skill in that particular week, the students were still prompted as states above. To make it clear though a child learnt the skill in physical prompt than his counterparts, the training through the same prompt continued till the end of the week, thus uniformity of treatment was ensured. Thus the cases were able to master the skill at their own pace and proceed further. The table below shows the statements used to gauge the students progress

Discussion

Based on the above case presentation it can be said that the autistic children had some sort of parental assistance. They were not deprived of parental care. Hence the investigator proposed to treat the cases with the developed video modelling. Parents took the lead on assisting the child and hence the investigator tried to control the parental variables in

terms of education and socio economic status. Parents or the care taker can make use of it any number of times and with hand held devices the benefits are innumerable. Human beings may at times get distressed or communication distortion may confuse the children. But the video played again and again gives the same input. At the same time, when these videos are used by parents, care taker and the special teacher it delivers the same of instruction, that minimize the communication errors too. Thus video modelling is an effective method of assistive technology that can be used to teach them.

S.No	Statements	1week	2ndweek	3rd week	4thweek
I	Toilet skill	Physical prompt	Verbal prompt	Clueing	Independent
1	Indicated need to go to toilet	√	√	√	√
2	Identify toilet door by looking at toilet picture	√	√	√	√
3	Open the door	√	√	√	√
4	Close door (no locking)	√	√	√	√
5	Remove under pant	√	√	√	√
6	Sit on the toilet seat	√	√	√	√
7	Sit on the toilet seat in proper position	√	√	√	√
8	After defecation wash Private parts	√	√	√	Need more training
9	Wear under pants	√	√	√	√
10	Locate the flush and flush fully	√	√	√	√
11	Take hand wash soap and wash hands	√	√	√	√
12	Wipe his/her hand	√	√	√	√

Conclusion

Children with ASD encounteredvarious problems in the global pandemic situation. The investigator as a special teacherinitiated an attempt to teach toilet skills to the ASD children with video modelling which is presented above. An ASD child passes through many confused situations gets panic and come across breath breaking situation today. The pandemic situation has stunned the movement of the whole world in a fraction of seconds, punching human faces horribly. Education and training avenues of children with disabilities has become nearly impossible.In this grim situation, the differently abled students need special attention, attitude and different approach to kick back the difficulties. These days have put the face-to-face teaching in the dark, the online teaching and the ICT enabled teaching is supplementing them. Hence, the investigator proposed to take the face off materials to the parents accompanied with footages on face off trainings and learning. The training and online learning gave a great lift in the lives of ASD children and visualised vivid progress in toilet skills. While the rest was still with pandemic, the special children were educated unceasingly through the stages ofself-attention, video and audio prompts. In this way along with their peers, the special children can be educatedusing adapted methods and technologies.

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