

RESPONSE-COST SYSTEM OF REINFORCEMENT PLUS DRA IN THE TREATMENT OF VERBAL AGGRESSION

Joel Sonnichsen, Ed.S. and Darcie Knight, Ed.S.

Children's Care Hospital and School - Sioux Falls, S.D.

Introduction

This case study examined the use of Response Cost Token System plus differential reinforcement for alternative behavior (DRA) in the treatment of escape and attention maintained verbal aggression. The subject of the study was an adolescent diagnosed with Spinal Muscular Atrophy and average cognitive abilities receiving educational, medical, and residential services in a 24-hour medically and behaviorally based residential program.

Methods and Settings

Children's Care Hospital and School is a private, non-profit facility serving children with disabilities from birth to 21. Children's Care is based in Sioux Falls, South Dakota, with two primary in-house service programs. The behavioral care services program provides ABA-based services for individuals with significant cognitive and behavioral deficits, including autism and related disorders. The extended medical care services program provides similar programming to children with a wide range of cognitive abilities and behavioral deficits, as well as significant medical complexities.

Each child's interdisciplinary team consists of a behavior analyst and/or school psychologist, special educators, speech/occupational/physical therapists, social worker, nutritionist, nurse. Children receiving residential services at Children's Care are also seen by a pediatric psychiatrist who works in conjunction with a behavior analyst.

Children's Care is a 43 week/year facility licensed by South Dakota Department of Education for educational programming and Department of Health for residential programming. Teaching is delivered through a "child-initiated, adult-directed approach" in which child preferences in terms of activities and materials are used as a basis for teaching skills in a discrete trial format. Individual educational plans are developed in alignment with the South Dakota Content Standards.

Participant

Tim is a 16 year old male with medical diagnoses of Spinal Muscular Atrophy (SMA) with subsequent tracheotomy and ventilator dependence as well as J-Tube placement for feedings due to significant risk for aspirations and history of pneumonias and other respiratory illnesses. He also suffers from chronic pain, g-reflux, scoliosis, bilateral hip displacement, insomnia, depression, and mood instability. Tim began receiving educational and medical/residential services at Children's Care in the spring of 2007. His initial level of service was 1 hour of school and 23 hours residential cares per day due to high levels of anxiety regarding leaving his room and historically extensive health issues; he also refused to allow staff to dress him and spent much of his day in an adult undergarment under a bed sheet. Prior to admission, Tim had been discharged from an acute hospital, other residential options were denied due to his history of verbal aggression towards staff.

Instruments

A functional behavior assessment was conducted that utilized a medical and educational file review, the Functional Behavioral Assessment Screening Tool, the Functional Analysis Screening Tool, direct observations with A-B-C raw data analysis, and informal preference interview.

Procedure

- 1) Verbal Aggression was defined as any occurrence of swearing, calling people names, and/or using rude language towards those around him.
- 2) The functional behavioral assessment indicated that the behavior was maintained both by social reinforcement in the form of escape from daily living activities (i.e. bathing, changing undergarments, dressing) and medical cares (trach suctioning, t-vest wearing, respiratory cares) and social reinforcement in the form of attention.
- 3) Baseline data were collected in both educational and residential settings from June 21, 2007 to July 5, 2007, with a mean weekly frequency of 115.
- 4) Though it was determined that his behavior was not physically harmful towards others, it would make his presence an aversive stimulus and would impede his access to the community and highly restrict his learning.
- 5) Tim was taught alternative means to communicate with staff during and between his daily living and medical cares. The program consisted of the following: getting staff's attention-for medical and non-medical issues, making a request, accepting "No", waiting appropriately, and requesting a break during daily cares.
- 6) After alternative skill training, a Differential Reinforcement of Alternative Behaviors was implemented at an FR1 schedule. Following the demonstration of alternative behavior, reinforcement was delivered in the form of enthusiastic verbal praise and when possible compliance with the request.
- 7) A response-cost system of reinforcement was then added as a treatment condition. Tim gained points for demonstrating alternative skills and earned negative points for verbal aggression. Points could then be used to purchase age appropriate items of the Tim's choice (video games, fusion pen, gaming systems). The percentage of token points earned for appropriate social interactions (Figure 1) and frequency of verbal aggression (Figure 2) were recorded and graphed.

Discussion

The behavior plan was effective in decreasing Tim's verbal aggression and increasing appropriate staff interaction. After twelve weeks full plan implementation, the mean weekly frequency of aggression was 4.75 over a four week period, resulting in a 95 percent reduction in verbal aggression. With the reduction in verbal aggression, Tim also developed appropriate alternative skills such as making requests and accepting "no". He began spending his days fully-clothed, and increased his daily school attendance to 6 hours per day. This study illustrates that differential reinforcement of alternative behaviors paired with response-cost system of reinforcement can increase appropriate alternative skills and decrease verbal aggression.

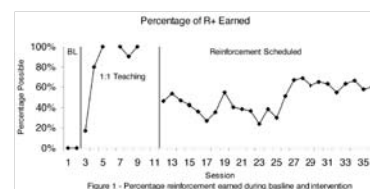


Figure 1 - Percentage reinforcement earned during baseline and intervention

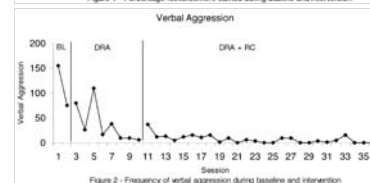


Figure 2 - Frequency of verbal aggression during baseline and intervention

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