The Use of Overcorrection as a Means to Control Drooling

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Excessive drooling in severely retarded students is a common classroom problem. This report presents a short, easy-to-execute correction procedure consisting of cleaning up saliva and pressing a tissue under the lips to decrease drooling. The procedure was used with a severely retarded girl who did not have any severe motor deficiencies. The procedure includes praise for a dry face. The procedure did decrease drooling, and the results were maintained over a 3-month period.

Excessive drooling is a problem often encountered when dealing with severely retarded people. The unpleasant appearance and odor inhibit socialization (McCracken, 1978; Pearson & Williams, 1972). The constant presence of saliva on the face, hands, clothing, materials, and work area is a major nuisance to therapists, teachers, parents, and the retarded people themselves. Most methods developed to decrease drooling involve facilitating lip and mouth closure and increasing tactile awareness (Brown & Donovan, 1977; McCracken, 1978; Pearson & Williams, 1972; Ray, Bundy, & Nelson, 1983). Also suggested are anticholinergic drugs and reconstructive surgery (Kutscher, Shoenberg, & Carr, 1973). For the most part, these methods are intended for people who have severe physical impairments and make little or no use of their cognitive abilities to control drooling. Morris (1977) has even suggested that indirect attempts to control drooling are most successful. He stated that, unless swallowing is a totally automatic process, a child could use drooling in a power struggle with adults.

Overcorrection procedures have been successful in training individuals to control their own behavior through cognitive means. Overcorrection has been used to reduce stereotyped, self-injurious, and disruptive behavior in severely handicapped individuals (Azrin, Kaplan, & Foxx, 1973; Freeman, Graham, & Ritvo, 1975). Even if successful, other procedures such as time-out or physical punishment may be inappropriate. Overcorrection may be used in these cases. Overcorrection need not take the 20 to 30 minutes per incident or continuous monitoring (24 hours per day) used in some early studies (Azrin, Kaplan, & Foxx, 1973; Foxx & Azrin, 1972; Sulzer-Azaroff & Mayer, 1977). Drabman, Cordua y Cruz, Ross, and Lynd (1979) used an intensive overcorrection procedure to reduce drooling in three subjects. They concluded that, because of the length and complexity of the procedure, it was impractical to use intensive overcorrection in an applied setting. Maechtlen and McDowell (1984) successfully used a 30-second overcorrection procedure to reduce violent grabbing in a profoundly retarded boy. Freeman, Graham, and Ritvo (1975) reduced a self-injurious behavior through a 1-minute overcorrection procedure. A short overcorrection procedure would seem to be a promising technique for the control of drooling in a school setting.

Our intent was to develop a procedure involving several components for developing control of excessive drooling. The procedure had to be short and simple enough to be used in both the classroom and therapy settings within the special education program of a public school and effective enough to carry over to nonschool time.
Method

The subject was an 11-year-old girl with a diagnosis of microcephaly who was attending a self-contained special education class in a public elementary school. She was, according to the definition of the American Association on Mental Deficiency (AAMD), severely retarded. She was ambulatory and had no physical or sensory disabilities. She had little expressive language, but would respond to a command to swallow and to shut her mouth. She had been taught to make a sucking sound and swallow when told to swallow. She rarely, if ever, swallowed spontaneously to control drool.

Drooling was defined as a drop of saliva appearing on the lips that either fell or remained on the face or lips for over 3 seconds. Baseline was taken during one or two 5-minute periods each day whenever convenient, usually one in the morning and one in the afternoon, for 5 days. During this time, each occurrence of drooling was recorded as the drool was wiped from the subject's face. No comment was made. Neither morning nor afternoon counts were taken close to lunch or snack time because drooling would be more frequent during these periods. Following baseline, an overcorrection procedure involving restitution was initiated (Foxx & Azrin, 1972). Restitution consisted of guiding the child to clean any saliva that was on her clothing, the furniture, or materials with a paper towel. During this procedure, the child was told, "No, you made it wet. Don't make it wet." Positive practice consisted of helping the child press a tissue lightly under her lips for 30 seconds. This step was similar to stroking the lower lip as suggested by Pearson and Williams (1972) and Brown and Donovan (1977). During this procedure the child was told, "Don't be wet. Keep your face dry."

The overcorrection procedure was carried out during a period of 15 minutes each morning and a period of 25 to 30 minutes each afternoon. The procedure was conducted by either the teacher or the aide during whatever classroom activity was in progress. During the rest of the day, the child was frequently complimented on her appearance and praised when her face was dry. Both the teacher and the aide carried out the procedure.

Results

Reliability checks were made three times during baseline and three times during intervention. Reliability was reported when both observers agreed on the occurrence of drooling behavior. Reliability during baseline was 90%. During intervention it was 100%.

During the 5 days of baseline, drooling occurred at a mean rate of 1.35 per minute, or approximately once every 40 seconds.

Intervention was conducted for 3 weeks during which the rate of drooling dropped to a mean of .1 per minute or once every 10 minutes. Following the intervention, the procedure was discontinued and baseline was once again taken for 2 weeks (see Figure 1 for details). Although there was an increase in the rate of drooling to a mean of .11 per minute (once every 9 minutes), drooling did not approach the rate of the original baseline. Data taken during baseline conditions 3 months after the procedure had been used showed a maintenance of gain at a mean rate of .1 or one drool every 10 minutes.

During baseline the child did show some awareness of being watched and seemed to exercise slightly more control than usual. On the days when her nose was stuffy she also drooled less than usual. Despite these factors, the baseline rate is a fairly accurate picture of the amount of drooling.

The overcorrection procedure was initiated on a Monday morning. The child seemed somewhat confused but did not resist when guided through the procedure. By the 3rd day, she began to show some awareness of saliva on her lips. She would, at times, pull her teeth over her lower lip and swallow. Many other times, she swallowed before the saliva left her mouth. Most of the time, she required total assistance in putting the tissue to her lips.

Since the overcorrection procedure was not carried on throughout the day, the child was occasionally reminded to keep her face dry during the rest of the day. As the rate of drooling decreased, this cue was faded. When the child was not engaged in new or difficult activities, she was more successful at controlling the drooling than she was when presented with new or difficult tasks. She was not, therefore, asked to engage in any but familiar activities during the first few days.
The overcorrection procedure made the child more aware of the presence of excess saliva in her mouth or on her lips. Often when she made eye contact with adults and some of the other children in the classroom, she would swallow even though no verbal cue was given. When she did drool she would often wipe the saliva away herself. She did not do this prior to the introduction of the overcorrection procedure.

Discussion

The overcorrection procedure worked quickly and was easily generalized and maintained with this child. It required little time since it was carried on for only a few minutes each day and, after the first few days, could be done while other programs were being conducted. Except for the occasional presence of the person who conducted reliability checks, the procedure was carried out by the regular classroom personnel.

The procedure was successful even though it could not be carried out on a daily basis because of the girl's frequent absences. Since frequent absences are often a problem with severely handicapped children, success must not depend on the daily use of the procedure.

The procedure was tested with another child in the same school. The second child was also classified as severely retarded and had very limited verbal abilities. She was ambulatory with no physical disabilities except for a mild visual handicap. Like the first child, she responded to a command to swallow but almost never swallowed spontaneously. The second child's original baseline was .37 drools per minute (approximately once every 3 minutes). During 4 weeks of intervention the mean rate dropped to .13 drools per minute (approximately once every 10 minutes). After the initial intervention the child was absent for 3 weeks. After her return to school, the procedure was conducted for 8 weeks during which the mean rate dropped to .07 drools per minute (approximately once every 14 minutes).

Conclusion

Since verbal reminders and praise for desirable behaviors did not reduce drooling in the two severely retarded children described, an overcorrection procedure was initiated and proved to be quick, easy to use, and successful. The overcorrection procedure taught the children to control their own drooling behavior. (The procedure has also been used successfully with a child who had mild athetosis.)

However, it should be pointed out again that these two children did not have any severe motor deficiencies. Other measures to facilitate lip and mouth closure should be used with children who do have severe motor deficiencies.

References


