Chronic rumination reduction in a severely developmentally disabled adult following combined use of positive and negative contingencies

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Abstract

The use of combined positive and negative contingencies markedly reduced ruminative behavior in a severely mentally retarded, blind 20-year-old male residing in a residential treatment facility. A 95.4\% decrease in rumination events occurred from baseline to follow-up. This procedure is offered as an effective and convenient treatment for chronic rumination.

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1. Introduction

Chronic rumination is a condition in which an individual voluntarily regurgitates previously ingested food into the mouth, manipulates the vomitus in the mouth, and then re-swallows the substance (Ellis, Parr, Singh, & Wechsler, 1997). This condition involves identifiable behaviors such as sticking the fingers down the throat or...
repeated tongue thrusting movements that evokes the stomach contents upward to the mouth (Tierney & Jackson, 1984), and it appears to be a pleasurable activity for the ruminator (Kedesdy & Budd, 1998). These behaviors, if left untreated, can cause physical and/or social problems such as social isolation, weight loss, dehydration, tooth decay, esophageal deterioration (Heering, Wilder, & Ladd, 2003; Rogers, Stratton, Victor, Kennedy, & Andreas, 1992), and even death (Fredericks, Carr, & Williams, 1998; Sajwaj, Libert, & Agras, 1974).

Initial treatment methods included contingent use of electric shock upon exhibition of visually identifiable antecedent rumination behaviors (e.g., blinking, coughing; Cunningham & Linscheid, 1976; Lang & Melamed, 1969), or to contractions of the stomach evidenced by EMG activity (Kohlenberg, 1970). The first reported alternative to shock was contingent use of lemon juice upon the demonstration of pre-rumination behaviors described as “vigorous tongue movements” (Sajwaj et al., 1974). Several studies since that time have demonstrated the efficacy of this method both with “normal” infants, and mentally retarded adolescents and adults (Becker, Turner, & Sajwaj, 1978; Hogg, 1982; Marholin, Luiselli, Robinson, & Lott, 1980). Although these techniques produced significant and beneficial results (Demchak & Halle, 1985), concern was raised whether such practices produced negative side effects or were ethical and humane treatments for these individuals (Mayhew & Harris, 1978; Rollings, Baumeister, & Baumeister, 1977). Thus, over recent years, these methods have been replaced by more “positive” treatment approaches (Barton & Barton, 1985; Masalsky & Luiselli, 1998).

Non-aversive techniques used for treating rumination have included satiation-based procedures, liquid rescheduling, differential reinforcement of other behaviors (DRO) and differential reinforcement of incompatible behaviors (DRI). In general, while use of these strategies have resulted in some decreased rumination, specific drawbacks that may preclude their usage include weight gain (Dudley, Johnson, & Barnes, 2002), decreased efficacy (Wilder, Draper, Williams, & Higbee, 1997), and temporary and/or situation specific responses (Mulick, Schroeder, & Rojahn, 1980; O’Neil, White, King, & Carek, 1979). Further, while Mulick et al. (1980) found that DRO in and of itself was not particularly effective in the reduction of rumination, O’Neil et al. (1979) suggest that use of DRO or DRI in conjunction with “aversive” procedures may produce more substantial results than any one treatment alone. To date, however, the majority of the research incorporating both types of treatment procedures (i.e., “aversive” and DRO or DRI) utilize them in either a sequential manner (e.g., lemon juice therapy phase followed by a phase of DRO; O’Neil et al., 1979) or by implementing a variety of techniques concurrently (e.g., pepper water, extinction, DRO, DRI, stimulus control, etc; Murray, Keele, & McCarver, 1976).

The purpose of the present study was to significantly decrease rumination through use of a multi-phasic treatment design involving the combination of a mildly aversive consequence and a two-pronged DRI technique. This treatment package also indirectly targeted a problem inherent in some positive-only procedures. Specifically, rather than promoting additional solitary, self-focused activity (e.g., food satiation), this package utilized social interaction (i.e., verbal praise) to address an issue secondarily inherent to this disorder: patient isolation.
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