

The Effects of Diaphragmatic Breathing on Anxiety

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Introduction

Although Overshadowed by the externalizing disorders in terms of the number of child referrals made to Mental Health practitioners, anxiety disorders are the most prevalent mental health problems experienced by children and adolescence.

In the US, relatively large epidemiological studies estimated these disorders to be 12%-20% in youth (Velting, Setzer, & Albano, 2004).

Compared to non-anxious youth, youth with anxiety disorders have less understanding of ways in which they can modify their emotional experiences. In order to best develop skills in modifying one's own anxiety reactions, children must learn to identify their own individual somatic reactions to anxiety. These individual responses that are unique to each child serve as clues for the child to label their emotional reaction "anxious". Once labeled, children can learn various cognitive and behavioral strategies to decrease their somatic response.

Relaxation training is a particularly powerful tool that helps children decrease their somatic arousal in a variety of settings. In general, diaphragmatic breathing is the easiest and most portable method for calming the anxiety response (Mennuti, Freeman, & Christner, 2006).

Diaphragmatic breathing is the act of breathing deep into one's lungs by flexing the diaphragm rather than breathing shallowly by flexing one's rib cage. It is marked by expansions of the stomach rather than the chest when breathing.

Diaphragmatic Breathing:

Sit up straight or lie on your back on a flat surface with your knees bent and your head supported.

Place one hand on your upper chest and the other just below your rib cage.

Inhale slowly and deeply through your nose so your stomach moves out against your hand.

Slowly breathe out through your mouth with pursed lips.

Repeat this cycle for several minutes until you feel you have calmed down.

Background Information

The student was an 8 year old Caucasian male in the 3rd grade in an urban school district that services grades K-5.

Reason for Referral - Excessive anxiety about being late to school on the days his babysitter takes him to school.

Purposes of the Study

Identify autonomic arousal and related physiological symptoms.

Reduce overall frequency, intensity and duration of the anxiety so that daily functioning is not impaired.

Research Questions

1. What are the effects of diaphragmatic breathing on anxiety?

1. To what degree was anxiety decreased after implementation of the intervention?

1. To what extent did the babysitter and classroom teacher view the intervention as acceptable and effective?

Methods

Setting:

Counseling took place at an elementary school that serves students in grades K-5.

The intervention focused on a third grade male student who was referred for counseling due to his excessive anxiety about being late to school.

The student used the diaphragmatic breathing technique at his babysitter's house before school.

Participants:

8 year old male in the third grade who suffers from anxiety about being late to school.

The student's babysitter and classroom teacher conducted observations.

The School Psychology intern provided direct therapy services.

Outcome Measures:

Direct observations - Babysitter and classroom teacher observed student

Student Self-Report - student rated his anxiety level on a scale of 1-8 (1=lowest level of anxiety, 8=highest level of anxiety) after using breathing technique.

Acceptability of Intervention - Anxiety was assessed using the Behavior Intervention Rating Scale (BIRS) - Acceptability Factor (Elliot, & Von Brock Treuting, 1991).

Perceived Effectiveness of Intervention - Effectiveness was assessed with the Behavior Intervention Rating Scale (BIRS) - Effectiveness Factor (Elliot & Von Brock Treuting, 1991).

Goal Attainment Scale - Goal Attainment Scale (GAS; Kiresuk, Smith, & Cardillo, 1994) was used to assess the babysitter and the classroom teacher's perceptions regarding the attainment of the intervention.

The Intervention Process

Individual Counseling

- Build rapport and assess the focus, excessiveness and uncontrollability of the student's worries and the type, frequency, intensity and duration of his anxiety symptoms.
- Focus on learning about emotions and managing somatic reactions to anxiety. Introduce the "Feelings Thermometer" with ratings from 0-8 that identify low - high levels of anxiety.
- Discuss various bodily reactions when feeling anxious and how these reactions can serve as clues to alert him he is feeling anxious.
- Introduce and practice diaphragmatic breathing technique and discuss how it will help him calm down, and how to apply it to daily life.
- Student uses diaphragmatic breathing techniques the mornings he goes to the babysitter's house and feels anxious about being late and rates his anxiety level on a scale from 0-8 after using the technique.
- Help student begin to identify thoughts in anxious situation and to understand how certain thoughts increase anxiety. Identify, challenge and replace fearful self-talk with positive, realistic self-talk that will increase his confidence in coping with his anxiety.
- Explore alternative solutions.

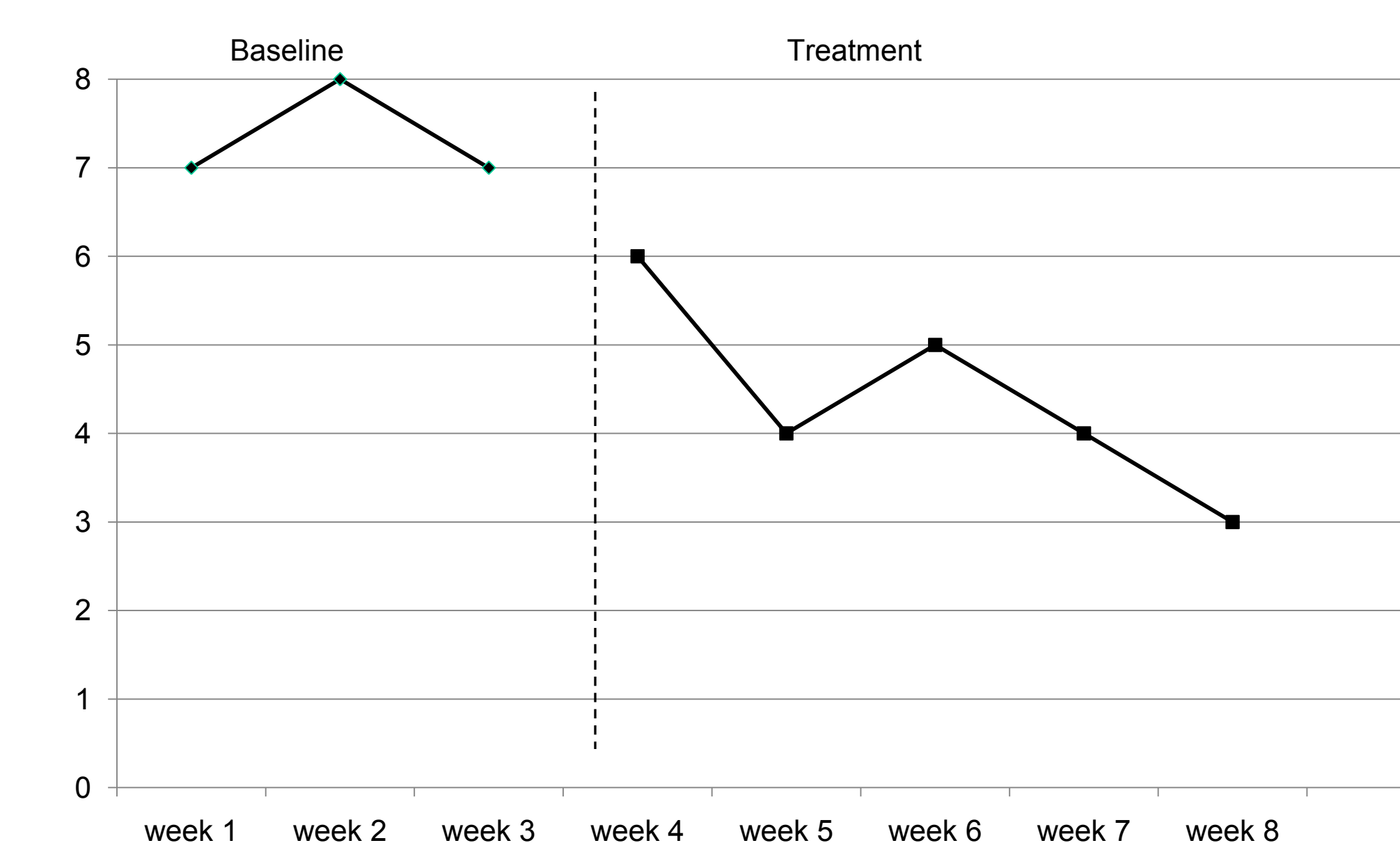
Results

Outcomes:

Effect Size

An effect size was calculated to determine the impact of the intervention on the student's anxiety. Overall, the mean effectiveness rating was 5.08 suggesting a large effect was associated with the intervention (Cohen, 1992). Data indicates a decrease in anxiety level.

The Effects of Diaphragmatic Breathing on Anxiety Ratings



Perceptions of Goal Attainment

Goal Attainment Scaling (GAS; Kiresuk, Smith, & Cardillo, 1994) was used to assess the babysitter and the Classroom teacher's perceptions regarding the attainment of the intervention goal. The babysitter's rating on the GAS was +2, indicating that she felt that the intervention was effective in attaining the goal. The classroom teacher's rating on the GAS was +1; indicating that she felt the intervention was somewhat effective in attaining the goal.

Perceptions of Effectiveness

Both the babysitter and classroom teacher completed an abbreviated version of the Behavior Intervention Rating Scale-Revised (Sheriden & Steck, 1995), to rate the acceptability and effectiveness of the intervention. The abbreviated BIRS-R is a 10 item instrument that uses a 6 point Likert scale (1= "strongly disagree", 6 = "strongly agree") and consists of two factors; acceptability and effectiveness. The overall mean effectiveness rating for both the babysitter and the classroom teacher's scale was 5, suggesting that they viewed the intervention as effective.

Perceptions of Acceptability

Both the babysitter and classroom teacher completed an abbreviated version of the Behavior Intervention Rating Scale-Revised (Sheriden & Steck, 1995), to rate the acceptability and effectiveness of the intervention. The abbreviated BIRS-R is a 10 item instrument that uses a 6 point Likert scale (1= "strongly disagree", 6 = "strongly agree") and consists of two factors; acceptability and effectiveness. The overall mean acceptability rating for the babysitter was 6 and for the classroom teacher's scale it was 5, suggesting that they viewed the intervention as acceptable.

Discussion

Data offers preliminary support that Diaphragmatic Breathing lead to a decrease in the student's anxiety level. The babysitter and the classroom teacher perceived the intervention as both effective and acceptable, suggesting that the intervention goals were met.

Limitations

The use of single-case design research, which involves a small number of participants, may limit the generalizability of the results.