Case Study

The Effects of Coping Cat Program on Anxiety, Emotion Regulation, and Resilience in Children Referring to Dentistry: A Case Study

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A B S T R A C T

Aims: The number of pediatric dental clients is on the rise. Besides, the relevant methods are costly and concerning; therefore, psychological methods are required to treat pediatric dental anxiety. The current study aimed to evaluate the effects of the Coping Cat Program (CCP) on anxiety, Emotion Regulation (ER), and resilience among 7- to 12-year-old children.

Methods & Materials: This was a case study with multiple baselines and a one-month follow-up design. The research sample included 4 subjects referring to the dental clinic in Mashhad City, Iran, in May 2017. The study participants were selected by the purposive sampling method. The study subjects received 16 therapy sessions (2 weekly sessions) based on the CCP. The child version of the Cognitive Emotion Regulation Questionnaire (CERQ-k) and Spence Children’s Anxiety Scale-Child (SCAS-Child) were used to collecting the required data. For data analysis, the graphical analysis method and the determination of recovery percentage were applied. The obtained data were analyzed using SPSS v. 21.

Findings: Anxiety scores in the pretest and posttest in the first child ranged from 62 to 44 with the recovery rate of 0.29; in the second child, it ranged from 57 to 37, with a recovery rate of 0.35; in the third child, it ranged from 48 to 35, with a recovery rate of 0.27, and in the fourth child, this rate decreased from 55 to 25 with a recovery rate of 0.54. Resilience scores in the pretest and posttest in the first child ranged from 52 to 75, with a recovery rate of 0.44, in the second child, it was from 43 to 66, with a recovery rate of 0.53; in the third child, it ranged from 58 to 74, with a recovery rate of 0.27, and in the fourth child, it increased from 64 to 89, with a recovery rate of 0.39. ER components also significantly improved in the examined children.

Conclusion: The present study data indicated that CCP was effective in reducing anxiety symptoms as well as increasing ER and resilience among children aged 7 to 12 years referring to dentistry. Thus, this method can be used to reduce anxiety symptoms and increase ER and resilience in this population. This method helps the child to become aware of negative thoughts, find evidence respecting their negative thoughts, cope with anxiety, learn skills, and practice and repeat these skills.

Key words: Coping cat program, Anxiety, Emotion regulation, Resilience, Dentistry
Extended Abstract

1. Introduction

Statistics indicate that 1 in 5 children is afraid of the dentist [1]. The goal of pediatric dentistry is the prevention and treatment of oral diseases as a basis for favorable oral health throughout life. An essential reason for patients to refrain from referring to dental service centers and consequently increasing the deterioration of oral health is dental anxiety [2]. Dental anxiety, in the long run, reduces oral health and Quality of Life (QoL) and causes a high rate of social harm; eventually, this condition leads to untreated infection of the oral cavity. One approach to improve the level of oral health and improve the QoL is to study dental anxiety and its related factors [3]. If pediatric anxiety disorders remain untreated, they continue into adulthood; accordingly, they prolong the conditions and enhance healthcare costs [2].

Dental anxiety is a multifactorial phenomenon and various factors can affect the rate of anxiety. Three important relevant factors include hatred of the dental office, learning through role models, and personality [4]. These issues can prevent children from referring to the dentist and generate numerous adverse effects on their dental health. An underlying factor in mood and anxiety disorders is the inability to regulate emotions [5]. Numerous children with anxiety disorders manifest less Emotion Regulation (ER) skills. These children reported experiencing emotions much more severely, displaying dysfunction in ER, and using less adaptive coping strategies to improve their moods [6]. ER strategies refer to how individuals think after a negative event in life. ER plays an essential role in various negative and positive experiences; it is a method of coping with negative stimuli and unpleasant emotional experiences [7].

Another characteristic that helps a subject to adapt to a difficult life situation and protects individuals from the disorders and misfortunes of life is resilience [8]. Resilience is a positive adaptation in response to difficult situations. Resilience is achieved through resistance, self-enhancement, coping, and adopting positive moods and emotions [9]. Additionally, resilience is a form of self-healing with positive emotional and cognitive consequences. Hajdal et al. (1999) stated that individuals who scored high in resilience obtained the lowest level of depressive symptoms and anxiety. Resilience can guarantee and promote mental health in individuals [10].

Based on Cognitive-Behavioral Therapy (CBT) approaches, children’s anxiety is rooted in various preoccupations with issues of concern, physical- arousal, and avoidance of new situations. Although different anxiety disorders can be found in childhood, it is generally agreed that the underlying structure of anxiety can respond to CBT [11]. Besides, the effectiveness of CBT in reducing anxiety symptoms is well established by research in children [12]. The first coherent program based on CBT to reduce children’s anxiety was the Coping Cat Program (CCP) [13]. Based on the theoretical-cognitive-behavioral perspective, this program teaches anxious children the principles of anxiety and bodily reactions, corrects anxious self-talk, problem-solving, performance appraisal, and self-rewarding, and practices hierarchical coping with anxious situations with the help of these skills [14, 15].

CCP focuses on modifying thoughts, feelings, and behaviors, and combines beneficial behavioral strategies, such as coping, de-stress training, role-playing activities, practice, and reward with a double emphasis on cognitive information processing factors along with the anxiety of individuals and social forces. Zarghami [16] argued that “CCP effectively reduced anxiety symptoms, depression, concentration/hyperactivity disorder, physical, confrontational disobedience, and behavior of 8-10 Iranian children with generalized anxiety disorder, separation anxiety disorder, and social anxiety disorder. Santestiban et al. [17] evaluated the effects of a short-term CCP in children with anxiety at the Spanish Psychiatric Public Health Center. The relevant results revealed that the treatment was helpful and participants and caregivers reported satisfaction and a sense of security. Kendall, Foure, and Poodle [18] suggested that CBT approaches for children with anxiety disorders have strong empirical support for children aged over 7 years. Clinical findings based on CCP suggested that >60% of children have made significant progress after the intervention [6]. In a longitudinal study conducted by Dahlander et al. [19] to investigate the factors associated with dental fear and anxiety in children aged 7 to 9 years, the results suggested that 7% of 7-year-old children experience fear of dentistry with an average anxiety score of 9.22; the same rate in children aged 9 years equaled 8% with an average anxiety score of 25.4. Besides, the parental fear of dentistry, the experience of toothache, painful dental treatment, and caries between the ages of 7 to 9 years were significantly associated with dental anxiety in children [19] Mehrsld et al. [20], as well as Abrahamson et al. [21], signified that dental anxiety was directly associated with unsatisfactory QoL. This type of anxiety was directly related to all social relationships and their mental states.

Considering that one approach to improve the level of oral health and the QoL is to study dental anxiety and its related factors. Furthermore, oral health depends on referring dentists for periodic examinations and treatment; therefore, the anxiety of pediatric dentistry is the focus of research in....
Iran. Thus, the present study aimed to investigate the effects of CCP on anxiety, ER, and resilience in children aged 7 to 12 years. The study results can be beneficial in the design and development of programs to educate families to eliminate pediatric dental anxiety and take appropriate actions when diagnosing oral diseases.

2. Materials and Methods

This research was reviewed in a single case design using baseline data. Sometimes, in educational and clinical environments, it is impossible to use group designs that require the repetition or elimination of the independent variables. High-Risk behaviors in the subjects, the small sample size, the special nature of the subjects, and the heterogeneity of the sample are the main reasons for the impossibility of using group designs. In cases where the researcher encounters ethical and practical constraints, single-case designs are used [22]. These designs, like experimental group designs with the active manipulation of the independent variable (treatment), allow cause and effect conclusions. Additionally, instead of using the control group in such designs, the position of the baseline acts as a controller for disturbing factors. Besides, the disturbing variables are controlled in the position of the baseline. The study population included all children aged 7 to 12 years in Mashhad City, Iran, who were referred to the dental clinic in May 2019. After referring to the dental clinic, 4 children with anxiety who received a high score on the anxiety questionnaire were selected by purposive sampling method according to the inclusion criteria. Then, a written informed consent form was obtained from the selected subjects’ parents. The inclusion criteria of the research were being 7 to 12 years old, not receiving other treatment approaches in the past 6 months and during the training, and no biopsychological illnesses. The exclusion criteria were presenting biopsychological illnesses and receiving other psychological interventions before the treatment. The study subjects received a one-hour treatment program for 16 sessions (two days a week) (Table 1). The required data were collected at different stages of treatment and analyzed using SPSS v. 21. In the inferential section, the visual analysis method and recovery percentage were applied.

Research tools included the following:

- Emotional Cognitive Regulation Questionnaire-Children’s Form: This questionnaire was developed by Gamowski and Karaj in 2006 in the Netherlands. It is used to identify individuals’ cognitive strategies after experiencing challenging events [13]. It has 36 questions and consists of 9 subscales. The addresses strategies include the cognitive strategies of acceptance, positive refocusing, planning refocusing, positive reassessment, and perspective as adaptive strategies and self-blame, ruminant, catastrophic, and other-blame, as maladaptive strategies. The scale’s scores range from 1 to 5. Each subscale contains 4 items. The total score of each subscale is obtained by adding the score of the items, ranging between 4 and 20. In each subscale, the higher the individual score, the more they use the strategy. In Garnfisky’s research, this tool’s Cronbach’s alpha coefficient was reported to range between 0.62 and 0.80 [13]; in Mashhadi et al.’s research [6], Cronbach’s alpha coefficient of subscales of this questionnaire was obtained to range between 0.76 and 0.85, suggesting its desirable reliability and validity. Spence Children’s Anxiety Scale: This is an anxiety assessment tool for children aged 15-8 years based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-IV), i.e., developed in 1997 by Spence in Australia. This questionnaire has two versions of the child (45 items) and parent (38 items). Scoring is based on a 4-point Likert-type scale [never (0), sometimes (1), often (2), always (3)] and the 6 scales measure the following aspects: separation anxiety, social anxiety, obsessive-compulsive disorder, market phobia anxiety, general anxiety, and fear of bodily harm. The reliability of this scale was reported to be 0.92 for general anxiety and 0.60 to 0.82 for the subscales [24]. According to Mousavi et al. [25], the questionnaire’s reliability was approved by Cronbach’s alpha coefficient to range between 0.62 and 0.89. Besides, 6 factors of the questionnaire were confirmed by the confirmatory factor analysis approach.

Angar and Liebenberg (2009) Child and Adolescent Resilience Scale: Angar and Liebenberg (2009) designed the Child and Adolescent Resilience Scale as a segregation tool for discovering the sources (individual, communication, contextual) of resilience. The scale consists of 28 items; respondents indicate their agreement with each item on a Likert-type scale, which ranges from absolutely (1) to very high (5), and 3 individual subscales of individual, communication, and contextual scale [26]. Kazerni Zand, Shamloo, and Mirzaeian [27] reported the reliability of this questionnaire by Cronbach’s alpha coefficient to range between 0.71 to 0.85. These data indicate the good reliability of this questionnaire. Moreover, 6 factors of the questionnaire were confirmed by the confirmatory factor analysis method. The intervention program content was as follows:

3. Results

The study sample consisted of 3 boys and a girl who obtained a high anxiety score when referring to the dentist.

First child: Ryan

A 9-year-old boy whose anxiety episodes started in elementary school; currently visits the dental clinic and encounters extensive anxiety. He has never taken medication for anxiety. The 39-year-old mother is a housewife with a
Table 1. Content of program coping cat

| Session | Treatment Content                                                                                                                                 |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Communicating and getting acquainted with treatment goals                                                                                  |
| 2       | Identify the feelings of anxiety, help the child to recognize different emotions, and distinguish between the feelings of anxiety and worry.     |
| 3       | Identify bodily reactions to anxiety.                                                                                                          |
| 4       | The first meeting with the parents.                                                                                                           |
| 5       | Familiarity with relaxation training and its use in reducing muscle tension associated with anxiety.                                         |
| 6       | Identify anxious self-talk and learn to challenge thoughts.                                                                                  |
| 7       | An overview of anxiety self-talk and coping self-talk and developing problem-solving skills.                                                    |
| 8       | Self-Assessment and self-reward training and a review of skills learned.                                                                     |
| 9       | The second meeting with the parents.                                                                                                          |
| 10      | Practice in situations with low anxiety using exposure assignments.                                                                         |
| 11      | Practice in situations where you are anxious, using exposure assignments.                                                                     |
| 12      | Practice coping tasks in situations with moderate anxiety.                                                                                    |
| 13      | Teaching coping tasks in situations with moderate anxiety.                                                                                   |
| 14      | Teaching coping tasks in situations with high anxiety.                                                                                       |
| 15      | Teaching coping tasks when there is extensive anxiety.                                                                                       |
| 16      | Practice coping tasks in situations of high anxiety, de-briefing, and finish treatment.                                                      |

BA degree in software engineering, and a 40-year-old father who works as an electrical engineer. Ryan also had obsessive thoughts, such as always turning on an Xbox model or being careful not to step on the tile frame when walking (Figures 1 and 2). Comparing the scores of before treatment, 5 sessions after the treatment, 10 sessions after treatment, the end of the treatment, and the follow-up (one month after the treatment) in the first study subject reflected the effectiveness of the provided training program on increasing resilience, decreasing anxiety, and ER promotion in the first child. Furthermore, these changes continued until the follow-up phase.

Second child: Arsam

He was a 7-year-old boy who developed toothaches at the age of 5 years. He visited the dentist once and was unwilling to refer to the dentist to have his teeth cured due to his experience with anesthetic injections. The explored child’s parents were very concerned about bringing their child to the dentist without all this anxiety. The 34-year-old mother had an MA degree in foreign languages and was employed. The child’s parents worked well together to improve their child’s anxiety (Figure 3 and 4).

Comparing the scores of before treatment, 5 sessions after the treatment, 10 sessions after the treatment, the end of the treatment, and the follow-up (one month after treatment) in the second study subject reflected the effectiveness of the CCP on increasing resilience, decreasing anxiety, and improving ER; this intervention also decreased the examined child’s anxiety until the follow-up phase.

Third child: Ronika

She was a 9-year-old girl. Some of her baby teeth have not yet fallen out and should be removed at the dentist’s discretion to replace them with the main teeth. However, due to Ronika’s anxiety about dentistry, she had not been present since last year. Currently, she was referred to the dentist following her parent’s insistence, and she was very restless. The mother was a 39-year-old, had a BA degree in computers, and was a housewife. Ronika’s father was a 39-year-old employed civil engineer. A complaint of the
mother was Ronika biting her nails, i.e., treated in the last sessions (Figure 5 and 6).

Comparing the scores of before treatment, 5 sessions after the treatment, 10 sessions after the treatment, the end of the treatment, and follow-up (one month after the treatment) in the third subject suggested the effectiveness of CCP on increasing resilience, decreasing anxiety, and increasing ER in the third child. Besides, the decreased anxiety and increased resilience values remained constant until the follow-up phase.

**Fourth child: Ali**

An 8-year-old boy who generated toothache for a while and did not visit the dentist and had a bad viewpoint about dentistry. He had visited a general dentist, and the first session, i.e., by injection, he was frightened and refused to visit a dentist, and was forcibly brought to the dentist by his mother. The 29-year-old mother had a BA in economics and was employed. Moreover, the 35-year-old father had an MA in economics and was employed.

Comparing the scores of before treatment, 5 sessions after the treatment, 10 sessions after the treatment, the end of
the treatment, and the follow-up (one month after the treatment) in the fourth study subject reflected the effectiveness of CCP on increasing resilience, reducing anxiety, and enhancing ER in the fourth child. The decreased anxiety and increased resilience remained until the follow-up phase in this child. As per Tables 2 and 3, anxiety and resilience, as well as all components of ER were significantly improved post-treatment, indicating the effectiveness of CCP on improving anxiety, resilience, and ER in children; this increase remained until the follow-up phase.

**Figure 3.** The scores of before treatment, 5 sessions after the treatment, 10 sessions after the treatment, the end of the treatment, and the follow-up of anxiety and resilience in the second research subject.

**Figure 4.** The scores of before treatment, 5 sessions after the treatment, 10 sessions after the treatment, the end of the treatment, and the follow-up of ER components in the second study subject.
Fear and anxiety present various effects on children’s lives. Among the anxieties and fears of children is the fear of the dental environment; this condition is manifested in the form of negative behaviors (e.g., fear, anxiety, pain, & anger) during the examination. This study examined the effects of CCP on anxiety, ER, and resilience in children aged 7 to 12 years referring to dentistry. The relevant results suggested that CCP improved anxiety, resilience, and ER in the explored children. The obtained findings were consistent with those of previous studies, such as Mir Hosseini, Alizadeh and Farrokhi [28], Dahlander et al. [19], Birjandi, Mashhadi, Tabibi [6], Kendall, Fourier, and Poodle [18], Compton et al. [29], Smith [30], Santest Ban et al. [17], as well as Nook and associates [31]. In the CCP, children learn how to evaluate their assessment process, i.e., rooted in their misconceptions of low self-efficacy and high stress.

**Figure 5.** The scores of before treatment, 5 sessions after the treatment, 10 sessions after the treatment, the end of the treatment, and the follow-up of anxiety and resilience in the third study subject

**Figure 6.** The scores of before treatment, 5 sessions after the treatment, 10 sessions after the treatment, the end of the treatment, and the follow-up of ER components in the third study subject
ful situations; by learning treatment skills, a plan for coping, and thinking about different solutions, cognitive reconstruction, and correcting cognitive avoidances; by correcting this self-talk, align their abilities with the nature of stressful situations; ultimately help boost their self-confidence by confronting (rather than avoidance) [32].

Accordingly, the techniques used in this treatment method are as follows: identifying the feelings of anxiety and bodily reactions, relaxation, reviewing and changing anxiety self-expression, problem-solving, performance appraisal, and practicing hierarchical exposure to anxious situations has an entertaining approach to therapy. Besides, it helps the child find negative thinking patterns, examine the relationship between thought and feeling and action, find evidence for negative thoughts, learn skills to cope with anxiety, and practice and repeat these skills. The child is in a state of escape-struggle when confronted with stress; thus, they must identify negative thoughts, feelings, and emotions, such as anxiety, worry, threat, helplessness, danger, and insecurity. Emotional awareness is a process of attention, i.e., associated with interpretive and valuable functions. Each treatment can lead to treatment through its special components;
the CCP, by teaching the treatment pattern (teaching the relationship between thoughts, feelings, & behaviors) identifying thought patterns (recognizing thoughts in different situations), detecting cognitive distortions (the awareness of cognitive distortion & its types), evaluating thoughts and improving the process of cognitive change and encouraging cognitive reconstruction, learning new cognitive skills, emotion management (teaching relaxation & controlled deep breathing), reduce children’s anxiety. These components, with the changes they make in the individual’s thinking and behavior, facilitate adapting to new conditions and creating new skills in the child [16].

In this treatment program, by teaching the effect of negative thoughts and anxious self-talk on emotions and behavior, the child understands the relationship between negative and catastrophic thoughts and feeling anxiety. Using cognitive techniques, such as identifying negative self-talk and catastrophic thoughts and challenging them and replacing more real self-talk and using better-coping skills, and using it in a threatening situation, leads to increased adaptive cognitive strategies for ER. Furthermore, these skills helped the child to use adaptive coping and adaptive ER. Moreover, among the components of ER, planning has the highest frequency of improvement. Besides, the percentage

Table 2. The results of effect size in the end stages of treatment and follow-up concerning anxiety and resilience

| Subjects | Stage                                | %          |   |
|----------|-------------------------------------|------------|---|
|          | Anxiety                             | Resilience |   |
| First    | The end-stage of treatment          | 29         | 44|
|          | Follow up                           | 41         | 46|
| Second   | The end-stage of treatment          | 35         | 53|
|          | Follow up                           | 50         | 48|
| Third    | The end-stage of treatment          | 27         | 27|
|          | Follow up                           | 29         | 24|
| Fourth   | The end-stage of treatment          | 54         | 39|
|          | Follow up                           | 74         | 37|

Table 3. Baseline, treatment, and follow-up scores of the ER

| Scale          | The Percentage of Recovery After Treatment | The Percentage of Improvement in Follow-up |
|----------------|--------------------------------------------|------------------------------------------|
| The reception  | 0.35                                       | 0.45                                     |
| Positive refocusing | 0.43                                     | 0.36                                     |
| Planning       | 0.57                                       | 0.57                                     |
| Positive re-evaluation | 0.23                                     | 0.37                                     |
| Perspective    | 0.47                                       | 0.38                                     |
| Self-Blame     | 0.19                                       | 0.26                                     |
| Ruminant       | 0.37                                       | 0.36                                     |
| Catastrophic   | 0.44                                       | 0.45                                     |
| Other-Blame    | 0.32                                       | 0.44                                     |
of perspective improvement, positive refocus, and rumination decreased in the follow-up stage.

To provide another explanation, we can refer to the studies of Gross and Thompson in this regard, as follows: using positive ER strategies modulates the effect of assessments and mental reactions of individuals in the face of stressful events. Moreover, it leads to appropriate cognitive, motivational, and behavioral responses in such situations. This treatment program has reduced the implementation of maladaptive ER strategies in children with anxiety; this was achieved by challenging various cognitive errors and teaching effective coping strategies and self-talk, i.e., consistent with reality. The CCP combines a set of effective behavioral approach techniques (e.g., coping with homework, relaxation training, role-playing, practice, & reward) and techniques for modifying cognitive factors that affect the information processing of anxious subjects. The program also introduces a logical combination of emotion perception and emotion management skills. This is because social stress management (e.g., family & peer pressure) is also associated with these skills. This treatment program has helped to increase children’s resilience by teaching muscle relaxation exercises, deep breathing techniques, and effective training.

A limitation of this research was its sample size. This was single-case research and the sample size equaled 4 children; thus, care should be taken in generalizing the results. Another research limitation concerned the research tool, i.e., only a questionnaire and using a tool may not restrict collecting accurate information. Given the importance of interdisciplinary and the interaction of many specialized sciences and professions, and that pediatric dentistry is a discipline related to psychology, there are different behavioral control methods for treating pediatric anxiety, ranging from talking to the child to relaxation techniques with medications and general anesthesia, i.e., highly costly. The cooperation of psychologists with the dental team and the use of the CCP are recommended to reduce the behavioral confusion caused by pediatric dental treatment. It is also suggested that training based on the coping cat program be considered in the context of group schemes.

5. Conclusion

The current study data indicated that CCP can reduce the severity of anxiety caused by dental treatment and increase resilience and ER in children. Therefore, it is recommended to use this program to reduce anxiety among children who refer to dental services; this method can significantly reduce the severity of children’s anxiety.

**Ethical Considerations**

**Compliance with ethical guidelines**

This research plan was presented at the meeting of the Regional Ethics Committee in the Biomedical Research Department of Mashhad University of Medical Sciences in February 2020. It was stated in a letter that this plan did not contradict the principles of ethical research in this article.

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**Authors’ contributions**

All authors equally contributed to preparing this article.

**Conflicts of interest**

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مقدمه
آموزش مبتنی بر برنامه Coping Cat باعث کاهش نشانه‌های اضطرابی و افزایش نظم‌جویی شناختی هیجان و تاب‌آوری کودکان می‌شود.

یکتا شکری منش، فاطمه حاجی‌اربابی

مطالعه موردی

دریافت نشانه‌های اضطرابی و افزایش نظم‌جویی شناختی هیجان و تاب‌آوری کودکان ۷۲ تا ۱۴ ساله مراجعه کنند به دندانپزشکی تک موردی

۱. کودکان مبتلا به اضطراب دندان‌پزشکی در مراحل مختلف بزرگسالی دندانپزشکی می‌توانند در مراحل اضطراب مؤثر باشند و سعی عمل مهم نمایند.

۲. برای کاهش نشانه‌های اضطرابی و افزایش نظم‌جویی شناختی هیجان و تاب‌آوری کودکان ۷۲ تا ۱۴ ساله مراجعه کنند به دندانپزشکی تک موردی

۳. کودکان مبتلا به اضطراب دندان‌پزشکی در مراحل مختلف بزرگسالی دندانپزشکی می‌توانند در مراحل اضطراب مؤثر باشند و سعی عمل مهم نمایند.

۴. برای کاهش نشانه‌های اضطرابی و افزایش نظم‌جویی شناختی هیجان و تاب‌آوری کودکان ۷۲ تا ۱۴ ساله مراجعه کنند به دندانپزشکی تک موردی

۵. کودکان مبتلا به اضطراب دندان‌پزشکی در مراحل مختلف بزرگسالی دندانپزشکی می‌توانند در مراحل اضطراب مؤثر باشند و سعی عمل مهم نمایند.
یکی از عوامل بررسی-سازگاری خانواده، اضطرابات مادر و پدر در دوران گذشته و باعث افزایش ترس دندانپزشکی کودکان می‌شود. یکی از عوامل اصلی ترس دندانپزشکی کودکان، ترس مواد احیایی در پیشینه چشم‌انداز‌های جسمانی و روانی و ترس از درد ممکن است باعث افزایش آن شود.

در اینجا، به بررسی اثربخشی برنامه آموزشی مبتنی بر برنامه Coping Cat می‌پردازیم که با استفاده از روش‌های شناختی رفتاری مبتنی بر برنامه CBT، برای کودکان با اختلالات اضطرابی و نیازمند آموزش مبتنی بر دندانپزشکی است. این برنامه با استفاده از روش‌های شناختی رفتاری که شامل تمرینات خودنگه‌گیری، تمرینات سیستماتیک و تمرینات دندانپزشکی کودکان است، به کودکان بهتری کرده و آموزش مبتنی بر دندانپزشکی و ایجاد پوسیدگی بین سنین ۴ تا ۱۱ سالگی ارتباط معناداری با اولین آزمون دندانپزشکی کودکان داشته است.

در این پژوهش، ۷۱ درصد از کودکان با اختلال اضطراب جدایی و اختلال اضطراب اجتماعی، با استفاده از روش‌های شناختی رفتاری مبتنی بر برنامه Coping Cat، بهبودی حاصل می‌کنند. نتایج نشان داد که افرادی که در تاب آوری نمرات پیشین را داشته‌اند، نهایتاً با هدایت به کودکان بهبودی‌های بیشتری را در زمان آموزشی به دست می‌آورند.

با توجه به اینکه پیکر و پیکر از روی ترس دندانپزشکی، دندانپزشکی کودکان را بهبود می‌بخشد و از نظر تحقق کلیار شدن برنامه‌های گروهی بهترین روش ممکن است. با استفاده از روش‌های شناختی رفتاری، برنامه Coping Cat بهبود دربیشی را در زمینه درمان اضطراب دندانپزشکی کودکان داشته و نتایج نشان داد که این برنامه بهبودی‌های بیشتری را در زمان آموزشی به دست می‌آورند.

در این پژوهش، برای کودکان با اختلالات اضطرابی و نیازمند آموزش مبتنی بر دندانپزشکی، برنامه Coping Cat بهبودی حاصل می‌کند. نتایج نشان داد که افرادی که توانسته‌اند با استفاده از روش‌های شناختی رفتاری مبتنی بر برنامه Coping Cat بهبودی‌های بیشتری را در زمان آموزشی به دست می‌آورند.

کودکان توانسته‌اند با استفاده از روش‌های شناختی رفتاری مبتنی بر برنامه Coping Cat بهبودی‌های بیشتری را در زمان آموزشی به دست می‌آورند.
مواد و روش‌ها

این پژوهش در چارچوب طرح تک موردی با استفاده از خط پایه بررسی شد. گله در پژوهش‌های آموزشی با سلسله‌های انگلیسی از توصیفی و مراقبت‌های داخلی‌السیاسی است. مسیر تغییرات جدید به دست آمده است، این در نظر گرفته شد و مطالعات جهانی مربوط به موضوع این مطالعه نیز وارد دریافت کننده می‌شود. در طرح تک موردی، مراجعه‌کنندگان به مراجعه‌کننده در طرح تک موردی گزارش شده است. در پژوهش گارنفسکی ضریب

۱۳و در مذکور بیشتر استفاده می‌کند. در پژوهش گارنفسکی تعداد ضریب

۱۳۰۰/۰۶۰۹ به منزله راهبرد ماده است. نمره کل هر خرده مقیاس از طریق

است. هر خرده فاجعه سازی و ملامت دیگران به منزله راهبردهای سازگار، نشخوارگری، و فاجعه سازی و ملامت دیگران به منزله راهبردهای ناسازگار،

۱۳۰۰/۰۶۰۹که به توجه به اینکه امکان قرار دادن کودکان مراجعه کننده به کلینیک، هر خرده مقیاس از طریق

۱۳۰۰/۰۶۰۹گزارش شده است (۱۱) و در ۱۳۰۰/۰۶۰۹از پژوهش‌های دیگر، مقیاس‌های انگلیسی که در مقاله باج (۱۳) نشان داده شد، به دست آمد.

۱. Single subject
# مصاحبه درمان

| جلسه | محتوای درمان |
|-------|--------------|
| 1     | برقراری ارتباط و آشنا شدن با هدف درمان |
| 2     | شناسایی احساسات اضطرابی، کمک به کودک برای شناسایی احساسات خود و تشویق تبادل احساسات اضطرابی |
| 3     | شناسایی واکنش‌های بدنی به اضطراب |
| 4     | اولین جلسه ملاقات با والدین |

# کودک اول: رایان

ساله کودک اول است که با اضطراب این مسئله در دبستان قرار گرفت. پدر و مادر ساله، مهندس برق و لیسانس نرم‌افزار، کامپیوتر است. رایان افکار وسواسی نیز داشت مثل اینکه همیشه یک مدل دستگاه ایکس باکس را روشن کند یا مواظب باشد. در نتیجه، پدر و مادر دغدغه زیادی دارند که بتوانند بدون این همه اضطراب کودکشان را به دندان پزشکی بیاورند.

# کودک دوم: آرسام

سالگی دندان دردهایش شروع شده است که از ۷ ساله بود و پسری بود. پدر و مادر او دغدغه دارند که بتوانند دندان این کودک را به دندان پزشکی بیاورند. پدر ۳۴ ساله، مادر ۳۵ ساله، لیسانس زبان، مهندس برق و پدر این کودک شیمی و مهندس برق است. پدر و مادر همکاری خوبی برای بهبود اضطراب کودکشان داشتند.

# تحقیق و عملکرد درمان

مصاحبه نمرات پیش از درمان، پس از ۴ جلسه درمان، نمرات معنی‌داری نکوداشت. پس از نکوداشت، تصاویر شماره ۱ و ۲ نشان دادند که اضطراب کودک اول از زمان آغاز درمان کاهش پیدا کرده است. نمرات پس از درمان نیز نشان دادند که این کودک توانسته است اضطراب خود را کاهش دهد.

# جدول

| جلسه | محتوای درمان |
|-------|--------------|
| 1     | برقراری ارتباط و آشنا شدن با هدف درمان |
| 2     | شناسایی احساسات اضطرابی، کمک به کودک برای شناسایی احساسات خود و تشویق تبادل احساسات اضطرابی |
| 3     | شناسایی واکنش‌های بدنی به اضطراب |
| 4     | اولین جلسه ملاقات با والدین |

# کودک اول: رایان

پسری ۹ ساله که با اضطرابی از لول دیستان شروع شده بود و اکنون که با کولینه دندان‌پزشکی مواجه می‌گردد، دچار اضطراب فروانی شده است. بیماری‌های دندانی که در نتیجه این اضطراب پیامد دارد، شامل فساد دندان‌های جوانان و ایجاد ناهنجاری‌های مغزی می‌باشد.

# اثر

کودک اولیکا، رایان، توانسته است اضطراب خود را کاهش دهد و در نتیجه، بهتر می‌تواند به بهبود راه ببرد.
تصویر اول: تصور ادامه پیش از درمان، پنج جلسه پس از درمان، به جلسه پس از درمان، پایان درمان و پیگیری متغیر اضطراب و تاب آوری در آزمودنی اول.

تصویر دوم: تصور 5 نمرات پیش از درمان، پنج جلسه پس از درمان، به جلسه پس از درمان، پایان درمان و پیگیری مؤلفه تنظیم شناختی هیجان در آزمودنی دوم.

تصویر سوم: تصور 2 نمرات پیش از درمان، پنج جلسه پس از درمان، به جلسه پس از درمان، پایان درمان و پیگیری متغیر اضطراب و تاب آوری در آزمودنی دوم.
تصویر ۳. تمرات پیش از درمان، پنج جلسه پس از درمان، ده جلسه پس از درمان، پایان درمان و پیگیری مؤلفه‌های تعظیم شناختی هیجان در آزمودنی موم

تصویر ۴. نمرات پیش از درمان، پنج جلسه پس از درمان، ده جلسه پس از درمان، پایان درمان و پیگیری مؤلفه‌های تنظیم شناختی در آزمودنی هیجان
کودک سوم؛ رونیکا

رونیکا، ساله است که تعدادی از دندان‌های شیری اش هنوز نیفتاده و به تشخیص دندان‌پزشک باید کشیده شود تا دندان‌های اصلی جایگزین آن شود. اما به دلیل اضطرابی که رونیکا از دندان‌پزشک داشت از سال قبل حاضر به مطب بوده و اکنون که به اصرار پدر و مادر به دندان‌پزشک آمده بود، بسیار بیقراری ساله، لیسانس کامپیوتر، خانه دار و پدر ۳۹ ساله، مهندس عمران و شاغل است. مادر، مهندس اقتصاد و شاغل و پدر ۲۹ ساله، مهندس عمران و شاغل است. 

مقایسه نمرات پیش از درمان، پنج جلسه پس از درمان، هفده جلسه بعد از درمان، ده جلسه بعد از درمان و پایان درمان نشان دهنده اثرات برنامه آموزشی بر افزایش میزان تاب‌آوری، کاهش اضطراب و افزایش نظم‌جویی شناختی هیجان در کودک سوم بود. 

کودک چهارم؛ علی

علی، ساله که مدتی از دندان درد رنج می‌برد و به دندها درمان نمی‌دهد و به دندان‌پزشک مراجعه نمی‌شود، او ذهنیت بدی از دندان‌پزشک داشته، زیرا قبلاً به دندان‌پزشک عمومی مراجعه کرده و جلسه اولیه را از تزریق ترسیده بود و حاضر نبود که مجدداً به دندان‌پزشک مراجعه کند و با احترام مهربانی به دندان‌پزشک، او مدتها بود. 

مقایسه نمرات پیش از درمان، پنج جلسه پس از درمان، هفده جلسه بعد از درمان، ده جلسه بعد از درمان و پایان درمان نشان دهنده اثربخشی برنامه آموزشی بر افزایش میزان تاب‌آوری، کاهش اضطراب و افزایش نظم‌جویی شناختی هیجان در کودک سوم بود.

اضطراب کودک

![Graph showing the comparison of Coping Cat during different stages of intervention.](chart.png)
خود و افزایش نظم جویی شناختی هیجان در کودک بود. همچنین کمک اضطراب کودک و لیگیش تاب آوری در مرحله پیگیری ادامه داشت. 

مراجعه کننده به دندان پزشکی صورت گرفت. نتایج پژوهش نشان دهنده اثربخشی آموزش مبتنی بر برنامه Coping Cat در کاهش نشانه های اضطرابی و افزایش نظم جویی شناختی هیجان و تاب آوری کودکان 7-21 ساله مراجعه کننده به دندان پزشکی صورت گرفت. نتایج پژوهش

جدول ۳ نتایج خط پایه درمان و پیگیری در مقیاس نظم جویی شناختی هیجان

| مرحله | اضطراب | تاب آوری |
|-------|---------|---------|
| مرحله پایان درمان | ۲۷ | ۲۱ |
| پیگیری | ۴۸ | ۵۵ |
| مرحله پایان درمان | ۴۲ | ۴۲ |
| پیگیری | ۵۰ | ۵۰ |
| مرحله پایان درمان | ۷۴ | ۳۷ |
| پیگیری | ۷۴ | ۳۷ |

بحث

ترس و اضطراب در زندگی کودکان اثر کوتاه گذاری از خود به چاپ می گیرند. از جمله این اضطرابها و ترس های کودکان، ترس از محیط دندان پزشکی است که در حین مراجعه به صورت رفتارهای منفی (مانند ترس، اضطراب، خشم) ظاهر و پدید می گردد. در این پژوهش، به بررسی آموزشی اثرات ناشی از ترس و اضطراب (از نظر النظم جویی) به وسیله آموزشی Coping Cat بررسی گردید. نتایج آموزشی نشان داد که اثرات آموزشی Coping Cat بر کاهش نشانه های اضطرابی و افزایش نظم جویی شناختی هیجان و تاب آوری کودکان 7-21 ساله مراجعه کننده به دندان پزشکی صورت گرفت.

جدول ۴ نتایج خط پایه درمان و پیگیری در مقیاس نظم جویی شناختی هیجان

| متغیر | درصد |
|-------|------|
| بهبودی پس از درمان | ۲۵/۰۲ |
| بهبودی در پیگیری | ۳۵/۰۴ |
| پذیرش | ۲۵/۰۴ |
| تمرکز مجدد مثبت | ۲۵/۰۲ |
| برنامه ریزی | ۳۵/۰۴ |
| ارزیابی مجدد مثبت | ۲۵/۰۴ |
| دیدگاه پذیرنده | ۳۵/۰۴ |
| مؤثرات غیرعامل | ۲۵/۰۲ |
| ملاحظات | ۲۵/۰۴ |
| ملاحظات دیگر | ۲۵/۰۴ |
در این پژوهش، از نوع تک موردی است و حجم نمونه کمی از کودکان دندانپزشکی فراگیر باگیر است. پژوهش‌های قبلی نشان داده‌اند که استفاده از برنامه‌های کاهش آسیب‌های دنتال و افزایش تاب‌آوری کودکان می‌تواند باعث کاهش شدت اضطراب، ایجاد بی‌پناهی، و افزایش نظم‌جویی شناختی هیجان کودکان شود. سه‌گانه، شناختی و آموزشی با توجه به وضعیت تلافیکاری، درمان استفاده از تکنیک‌های اضطراب‌زا و رفتاری سازگاری با شرایط جدید و تغییراتشان را تطبیق می‌نماید. این برنامه درمانی با به‌کارگیری آموزش مبانی تبی‌پذیری، تمرکز بر الهام‌می‌گیری، تغییر نظم‌جویی‌های شناختی کودکان در مقابل حالت‌های ترتیب‌زا، و ایجاد مهارت‌های جدید را تمرکز می‌نماید. این برنامه درمانی با به‌کارگیری روش‌های تبی‌پذیری و تمرکز بر الهام‌می‌گیری، تغییر نظم‌جویی‌های شناختی کودکان در مقابل حالت‌های ترتیب‌زا، و ایجاد مهارت‌های جدید را تمرکز می‌نماید. این برنامه درمانی با به‌کارگیری روش‌های تبی‌پذیری و تمرکز بر الهام‌می‌گیری، تغییر نظم‌جویی‌های شناختی کودکان در مقابل حالت‌های ترتیب‌زا، و ایجاد مهارت‌های جدید را تمرکز می‌نماید. این برنامه درمانی با به‌کارگیری روش‌های تبی‌پذیری و تمرکز بر الهام‌می‌گیری، تغییر نظم‌جویی‌های شناختی کودکان در مقابل حالت‌های ترتیب‌زا، و ایجاد مهارت‌های جدید را تمرکز می‌نماید. این برنامه درمانی با به‌کارگیری روش‌های تبی‌پذیری و تمرکز بر الهام‌می‌گیری، تغییر نظم‌جویی‌های شناختی کودکان در مقابل حالت‌های ترتیب‌زا، و ایجاد مهارت‌های جدید را تمرکز می‌نماید. این برنامه درمانی با به‌کارگیری روش‌های تبی‌پذیری و تمرکز بر الهام‌می‌گیری، تغییر نظم‌جویی‌های شناختی کودکان در مقابل حالت‌های ترتیب‌زا، و ایجاد مهارت‌های جدید را تمرکз

ملاحظات اخلاقی

پیروی از اصول اخلاق پژوهش
این طرح در جلسه کمیته متعاقب‌های اخلاق در پژوهش زیست‌پزشکی مصادفه طول پژشکی معین به مقر ۵۰/۰۹۰۷۹۰۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹۰۷۹
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