Original Article

Effectiveness of Cognitive Behavioral Hypnotherapy to Reduce Smoking in Anxiety-Prone Individuals

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ABSTRACT

Objective: to assess the efficacy of Cognitive Behavioral and Hypnotic interventions in reduction of smoking in anxious prone adults.

Study Design: Observational study

Place and Duration of Study: This study was conducted at the Professional environment at Institute of Professional Psychology, Bahria University Karachi Campus (BUKC) from January 2023 to September 2023.

Methods: The study recruited 37 male smokers aged 19 to 24 from the University of Karachi, chosen based on their frequent experience of anxiety leading to smoking as a coping mechanism. Cognitive Behavioral Hypnotherapy (CBHT) was administered over eight sessions, each lasting 45 minutes to 1 hour, focusing on reducing smoking and anxiety levels. Pre- and post-intervention anxiety levels were assessed using the Beck Anxiety Inventory (BAI). Statistical analysis, including paired sample t-tests, was conducted using SPSS version 23 with a significance level set at $p < 0.05$.

Results: The intervention led to a significant reduction in smoking habits among participants, with the average number of cigarettes smoked per day decreasing from 15.2 to 8.32. Additionally, there was a substantial decrease in anxiety levels, with participants experiencing an average reduction of 9 points in anxiety scores.

Conclusion: Cognitive Behavioral Hypnotherapy intervention can be helpful as short term therapy intervention and effective for both anxiety symptoms and reduction of smoking.

Key Words: Anxiety, smoking, cognitive behavioral therapy, hypnotherapy, cessation

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INTRODUCTION

Global adult smoking prevalence in 2020 was 32.6% for men and 6.5% for women, resulting in around 1.18 billion regular tobacco smokers and approximately 7.0 million deaths.[1] Since 1990, smoking prevalence has decreased by 27.2% for men and 37.9% for women, with significant declines in high-income and some Latin American countries.[2]

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However, low- and middle-income countries, particularly in Asia and the Pacific Islands, have seen limited progress, with over half of men in these regions still smoking.[3] Conversely, some countries like Nepal, the Netherlands, and Denmark have experienced substantial reductions in smoking prevalence among women, while rates remain low in Asia and Africa.[1,4,5]

Now a day's smoking has become a very common practice, particularly in young ones .This process involves inhaling the smoke of burnt tobacco leaves or other materials. Youngster smoke for sake of society, other finds it as a way to seek attention and a way to stand out and some relate it to broad mindedness.[6] Diseases like lung cancer, tuberculosis heart attack and many other acute problems are caused by smoking which are ignored by adults. Once young adults reach maturity they come to know that they are already addicted to smoking.[1]

Anxiety Disorder rate is very high in smokers, many studies narrates a relationship between psychiatric disorders and cigarette smokers.[7] Smoking anxiety association could explain the three non-mutually exclusive models. As firstly increased anxiety might be due to smoking; Secondly anxiety may increase the rate of smoking; and thirdly, smoking and anxiety rates might in cooperation be influenced by each other.[8]

Cognitive-behavioral hypnotherapy (CBH) is one of the fundamental approaches in hypnotic psychotherapy, also known as "hypno-psychotherapy." This therapeutic model blends traditional hypnotherapy with the principles and methodologies of cognitive-behavioral therapy (CBT).[9] CBH is helpful in pointing out where the thoughts of people are negative, unhelpful or disobliging, at the same time it is helpful in creating new and positive thoughts and optimistic behaviors using hypnotherapy. It can be useful for the user to deal with problems like self-esteem, low confidence level problems and self-destructive behavior. It is also beneficial in treating the portions which are mostly cured with by hypnotherapy, just as reduction in smoking, weight loss, problems of with phobias etc.

The current study intends to explore applicability of Cognitive Behavioral Hypnotherapy (CBH) for quitting smoking for the individuals who have anxiety. This is quite a new intervention rarely used specially in Pakistan. Therefore, there is need of putting forth some new interventions to reduce the rate of active smoking among the people of Pakistan who are also facing anxiety, which can be more effective and applicable. The objective of this study was to assess the efficacy of Cognitive Behavioral and Hypnotic interventions in reduction of smoking in anxious prone adults.

METHODS

The study involved 37 male smokers, aged 19 to 24, from university of Karachi through purposive sampling. These participants were chosen because they reported experiencing anxiety frequently, which often led them to smoke as a way of coping. Sessions were conducted in the professional environment at Institute of Professional Psychology BUKC from January 2023 to September 2023. They smoked at least 10 to 12 cigarettes per day and scored 16 to 25 on the Beck Anxiety Inventory (BAI). Additionally, they were willing to undergo Cognitive Behavioral Hypnotherapy (CBHT) for smoking cessation. Before beginning the study, participants provided informed consent, ensuring confidentiality and their right to withdraw without penalty. They also completed a demographic questionnaire providing background information on age, gender, education, occupation, years of starting smoking and all the questions related to smoking.

The Beck Anxiety Inventory (BAI) was administered to assess anxiety levels before and after the intervention. Beck Anxiety Inventory (BAI) is a self-report scale measure of anxiety, developed by Beck et al, in 1998. Its Age range is from 17 through 80 year. It consists of 21 items. The total time required for the completion of the form is from 5 to 10 minutes and it is a self-administered scale or verbally administered by a trained person. The total score is calculated by finding the sum of the 21 items. Score of 0 – 7 = low anxiety, Score 8-15 = mild anxiety, Score of 16 – 25 = moderate anxiety, Score of 26 - 63 = potentially concerning levels of anxiety.[10-11]

The Cognitive Behavioral Hypnotherapy (CBHT) is the combination of two therapies and their techniques are combined that complement each other. The techniques are easy and feasible which make the intervention more effective. The intervention consisted of eight therapy sessions which was conducted in the Institute of Professional Psychology, each lasting 45 minutes to 1 hour. These sessions focused on various techniques aimed at reducing smoking and anxiety levels. Introduction: Building rapport and explaining the intervention's purpose (session 1), Understanding Negative Automatic Thoughts (NATs): Introducing NATs and conducting suggestibility tests (session 2), Exploring Feelings: Discussing anxiety-provoking thoughts and past experiences, and introducing relaxation techniques (session 3), Working on Alternate Thoughts: Writing positive alternatives to NATs and introducing relaxation exercises (session 4), Exploring Core Beliefs: Targeting core beliefs contributing to anxiety (session 5), Discussion of Pros and Cons of Core Beliefs: Analyzing the impact of core beliefs on anxiety and introducing coping strategies (session 6), Review of Therapy: Assessing therapy progress and obtaining participant feedback (session 7), Termination: Re-administering the BAI to compare pre- and post-intervention anxiety levels, concluding the therapy, and obtaining final feedback (session 8).[12]

Paired sample test was used to find out the significance in pre post scores. Categorical variables was reported as n (%) while numerical variables as mean + sd. Statistical analysis was performed using SPSS version 23 as p value <0.05 significant.

RESULTS

The sample consists of thirty seven individuals, and their ages were measured. The mean age of the participants was 18 + 2 years. The average years of smoking was 3 + 0.8 and number of cigarettes smoked per day was 15 + 3.

Table 1 presents the results of a paired sample t-test conducted to assess the impact of an intervention on smoking reduction, measured by the number of cigarettes smoked. At the baseline, participants smoked an average of 15.2 + 2.11 cigarettes per day. Following the intervention, the average number of cigarettes smoked decreased significantly to 8.32 + 3.36 per day. , with a standard deviation of 3.36. This resulted in a mean difference of 6.88 cigarettes between baseline and follow-up visits. The paired t-test yielded a t-value of 10.54 with 36 degrees of freedom, indicating a highly significant reduction in smoking behavior ($p<0.001$). These findings suggest that the intervention effectively reduced smoking habits among participants, highlighting its potential efficacy in promoting smoking cessation.

Table 2 illustrates the outcomes of a paired sample t-test examining the reduction in anxiety scores before and after an intervention. At the baseline, participants had an average anxiety score of 18.4 + 4.33. Following the intervention, the average anxiety score decreased significantly to 9.4 + 3.81, with a standard deviation of 3.81. This resulted in a mean difference of 9 points in anxiety scores between the baseline and follow-up visits. The paired t-test yielded a t-value of 9.49 with 36 degrees of freedom, indicating a highly significant reduction in anxiety levels ($p<0.001$). These findings suggest that the intervention effectively alleviated anxiety symptoms among participants, highlighting its potential effectiveness in improving psychological well-being.

Table No. 1: Paired Sample t-Test for the Reduction in Smoking (# of cigarettes).

Mean + sd at Baseline	Mean + sd at Follow-up Visit	Mean Difference	t	df	p value
15.2 + 2.11	8.32 + 3.36	6.88	10.54	36	<0.001

Table No. 2: Paired Sample t-Test – Reduction in Anxiety Score.

Mean + sd at Baseline	Mean + sd at Follow-up Visit	Mean Difference	t	df	p value
18.4 + 4.33	9.4 + 3.81	9	9.49	36	<0.001

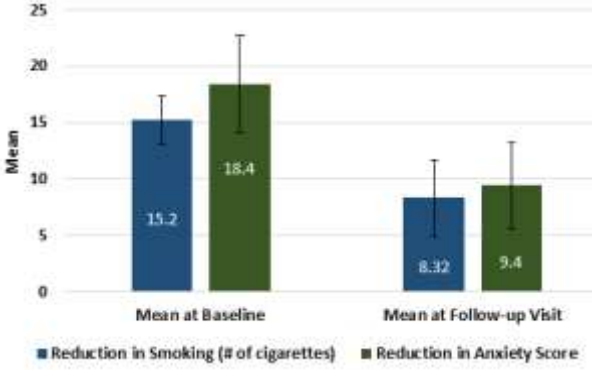

Figure No. 1: Pre and Post Comparison of Anxiety Scores

DISCUSSION

Beck was of the view that cognitive processes manipulate behavior and that overt behavior and emotional expression could be changed by cognitive intervention.[13,14] By using Cognitive behavioral therapy (CBT) one can change the way of thinking and behaving of a person by talking to them and can help to overcome their problems.[15,16] In the present study CBT and Hypnotherapy techniques are merged to form new kind of therapy that is called Cognitive Behavioral Hypnotherapy (CBHT).

The results of our study indicate positive outcomes regarding the effectiveness of the intervention in reducing both smoking habits and anxiety levels among participants. Regarding smoking reduction, our findings demonstrate a significant decrease in the number of cigarettes smoked per day following the intervention. Participants initially reported a substantial smoking habit, which notably decreased post-intervention. Cognitive-behavioral therapy (CBT) has proven to be highly effective and widely recognized as a successful method for helping individuals quit smoking. In fact, it's often considered the preferred treatment option in many countries, including Germany, as highlighted in national treatment guidelines.[17] Lopez-Olivo et al., study found that a notable interest among smokers in exploring hypnotherapy as a potential tool for smoking cessation.[18] Hypnosis-based cognitive behavioral intervention is effectiveness on smoking cessation and self-efficacy increasing which also reduces the amount of anxiety.[19] Cognitive hypnotherapy is a modern therapeutic approach that integrates cognitive behavioral therapy with hypnosis. This combination draws upon evidence-based practices to offer a comprehensive method for addressing various psychological issues and promoting positive behavioral change. An analysis of 18 studies focusing on cognitive hypnotherapy for different emotional disorders revealed that incorporating hypnosis into cognitive behavioral therapy significantly enhanced treatment effectiveness. Additionally, several studies conducted retrospectively on hypnotherapy have demonstrated encouraging outcomes in supporting efforts to quit smoking.[20]

Similarly, our intervention also yielded positive outcomes in reducing anxiety levels among participants. Participants reported experiencing significant levels of anxiety initially, which notably decreased post-intervention. Skillful utilization of mindfulness, hypnosis, and cognitive behavioral therapy (CBT) enables clients to develop the abilities needed to calm themselves, alleviate worry, and foster optimism about the future, thereby reducing symptoms of generalized anxiety disorders.[21] Cognitive behavioral hypnotherapy leads to notable improvements in both post-test assessments and post-hoc analyses of both variables. These findings suggest that this approach holds promise as a potential treatment for anxiety in the future and may effectively enhance the quality of life for individuals struggling with test anxiety.[22] Sadat et al., study showed that cognitive hypnotherapy was effective in reducing the anxiety of women with generalized anxiety disorder.[23]

CONCLUSION

In conclusion, the findings from this study underscore the potential benefits of integrating Cognitive Behavioral and Hypnotic interventions to address smoking reduction and anxiety level reduction in

anxiety-prone adults. These results highlight the importance of further research in this area to strengthen the evidence base and potentially inform more tailored and effective interventions for this vulnerable population. Implementing such interventions in clinical settings could have significant implications for promoting healthier behaviors and improved mental well-being among anxiety-prone individuals seeking to quit smoking.

Author's Contribution:

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