

Efficacy of Cognitive Behaviour Therapy in Managing Test Anxiety and in Enhancing Achievement Motivation among female Nursing Students

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ABSTRACT

Background: Many people experience stress or anxiety before, during, and after the exam. Little anxiousness usually helps with better performance. Even so, once this anxiety becomes so extreme that this starts to interfere with academic achievement, it may be necessary to avoid situations involving testing. Test anxiety can cause symptoms of depression, low self-esteem, anger, and a sense of hopelessness. **Objective:** The current study examined the "efficacy of cognitive behaviour therapy in managing test anxiety, and in enhancing achievement motivation among nursing students. **Material and Methods:** The participants were selected through the purposive sampling technique. The study population included first-year Bsc nursing students from Baby Memorial College of Nursing, Kozhikode, Kerala, India. They were assessed on Test Anxiety developed by Sharma (2000) and Achievement Motivation constructed by Bhargava (2009). **Research Design:** The Experimental research design method before, after and follow-up without control group design were selected for the present study. Cognitive behaviour therapy was given once a day for about 60 minutes a week. The researcher exposed students to mindfulness, breathing exercises, goal-setting and guided imagery meditation. **Results:** The Repeated Measure ANOVA For test anxiety and achievement motivation results revealed that significant differences were observed in all three phases (before, after, and follow-up). **Conclusion** Cognitive behaviour therapy was found to be effective in reducing test anxiety and enhancing achievement motivation among nursing students. This supports policymakers maker, universities, institutions, and colleges to organize more CBT workshops.

Keywords: *Test Anxiety, Achievement Motivation, Cognitive Behaviour Therapy, Nursing Students. Mindfulness, Breathing exercises, Goal setting, and guided imagery meditation.*

INTRODUCTION

Test Anxiety

When a person has distress before, during, or after a test or other assessment to the point where it negatively affects their performance or prevents them from learning normally, this is known as test anxiety. This phenomenon occurs frequently, according to Mashayekh and Hashemi (2011). The fear of failing a test that occurs before and during the test is referred to as test anxiety. The processes include affective components such as uneasiness, and nervousness. physiological components such as heart rate increase, respiration rate increase, cognitive components, such as fear failure, sweating and so on, This phenomenon occurs frequently (Pekrun and Stephens, 2015; Desousa et al. (2016) explored the prevalence of test anxiety in medical and nursing students. It was found that students in the nursing group reported more test anxiety compared with medical student group. Shapiro (2014), systematic review study explores test anxiety among nursing students. Test anxiety affects 30% of nursing students and has detrimental effects on academic performance and student success.

Achievement Motivation

The term “Achievement Motivation” is often used synonymously with the need for achievement. In the first half of the twentieth century, scientists did a great deal of work on motivation to achieve success. The need for achievement is defined as the need to overcome obstacles to excel and uphold a high standard (Murray, 1938). Beck (2011) considers Cognitive Behaviour Therapy “a time-sensitive, structured, present-oriented psychotherapy directed toward solving current problems and teaching client’s skills to modify dysfunctional thinking and behaviour. Henry Murray (1938) defined the need for achievements as the desire to “accomplish something difficult; to overcome obstacles and attain a high standard; to excel oneself; to rival and surpass others. Mc Cleland and his colleagues made significant contributions to the development of studies on the need for achievement motivation. Mc Cleland found a significant relationship between high achievement motivation and early independence in childhood. In addition, there is a possible correlation between high achievement motivation and actual achievement in later life. Freund and Holling (2011) examine the role of the BIG 5 and General Mental Ability (GMA) for the prediction of Current Achievement Motivation (CAM) in an ability testing context. A total of 189 participants took two figural matrices tests and 90 of them received training intervention between tests. Both tests showed openness, conscientiousness, and neuroticism to significantly predict CAM. Training had an additional impact on the probability of success. Arul and Vimala (2013) explore self-concept and achievement motivation among high school students. It was found that there was a significant relationship between self-concept and achievement motivation of high school students.

Intervention to Test Anxiety

Zargarzadeh and Shirazi (2014), a study was conducted to determine the effect of the progressive muscle relaxation method on test anxiety among nursing students of Isfahan University of Medical sciences. The results showed reduced test anxiety among nursing students. Kaur, Thapar, Saini, Mishra. (2017), a study aimed to assess the effectiveness of

guided imagery on test anxiety among nursing students. Guided Imagery as an intervention in the form of audio tape for 30 minutes was for the experimental group. It was found that reduced anxiety levels among nursing students after guided imagery ($P=0.0001$).

Cho, Ryu, Noh, Lee (2016) study examined the effectiveness of daily mindful breathing practices on test anxiety of university students. A total of 36 participants were randomly assigned to one of three Conditions; a training mindful breathing condition (N-12) a training cognitive reappraisal condition (contrast group, n-12), and a non-training condition (control group n-12). The finding of this study suggests that both daily breathing and cognitive reappraisal practices were effective in reducing test anxiety; however mindful breathing increased positive automatic thoughts to a greater extent.

Intervention on Achievement Motivation

Garshasbi, and Taghizadeh (2018), investigated the effect of self-regular skill training on academic performance of achievement and academic performance of nursing students in English Jondi Shapour University of medical science. It was found that self-regulation skill training has a positive effect that increases achievement motivation of the students in learning English.

Muro, Soler, Cebolia, and Cladellas (2018) explored the efficacy of positive psychology intervention to increase students' motivation to study or improve performance. It was found that positive psychology intervention in increasing motivation to study and enhances the academic performance of poor-performing high school students.

Cognitive Behaviour Therapy

Cognitive behaviour therapy found to be one of the most prominent effective therapies for many psychological problems. Cognitive behaviour therapy combines cognitive and behavioural therapies and has strong empirical support for treating mood and anxiety disorders (Chambless and Ollendick 2001: DeRubeis and Crits Christoph, 1998). A type of psychotherapy. It helps individual to change unhelpful or unhealthy ways of thinking, feeling and behaving. Cognitive Behaviour Therapy uses practical self-help strategies. These are designed to immediately improve individual quality of life. According to the Mayo Clinic, Cognitive Behaviour Therapy is "a common type of talk therapy (psychotherapy). Individuals work with a mental health counselor (psychotherapist or therapist) in a structured way, attending a limited number of sessions. Cognitive Behaviour Therapy helps individuals to become aware of inaccurate or negative thinking so they can view the challenging situation more clearly and respond to them more effectively. There have been few studies focussing Cognitive Behaviour Therapy on Test Anxiety and study related to Achievement Motivation. Putwain and Embse (2020), Cognitive Behavioural Intervention are an effective treatment for Test Anxiety study evaluated a six-session Cognitive Behaviour Intervention for anxiety in a sample of secondary school student aged 14-16 years preparing for high stakes examinations. Test Anxiety showed a large reduction following Intervention compared to control group participants who showed a moderate reduction.

Ganaprakasam and selvaraj(2020),. The study was aimed at examining the effectiveness of cognitive behavioural group therapy in alleviating Test Anxiety among primary school students. The study employed a one –a group pre-test and post-test design. Findings revealed

reduction in Test Anxiety scores among the respondents who have received cognitive behavioural group therapy.

Ugwuanyi, et al. (2020), study determined the effect of cognitive behavioural therapy (CBT) with music in reducing physics test anxiety among secondary school students as a generalized test anxiety scale pre-test, post-test randomized control trial experimental design was adopted in this study. The treatment group was exposed to a 12 week CBT-MUSIC program. The results showed a significant effect of CBT with MUSIC in reducing physics Test Anxiety among secondary school students.

In this context acknowledging the need for intervention among Nursing Students on Test Anxiety and Achievement Motivation, the present was undertaken to find out the Efficacy of cognitive behavior therapy in managing test anxiety and in enhancing achievement motivation.

Need for the study

In this context acknowledging the need for intervention among Nursing Students on Test Anxiety and Achievement Motivation, the present was undertaken to find out the Efficacy of Cognitive Behaviour Therapy in Managing Test Anxiety and in Enhancing Achievement Motivation.

Method

Research Design

The present study adopted pre-test, post-test, and follow-up sessions. The participants were given a test anxiety inventory and achievement motivation test for screening. The participants who score high in test anxiety and low in achievement motivation were selected for the intervention session. Students were given with CBT in group. Post-assessment for test anxiety and achievement motivation was followed after the intervention. Follow-up session was done after one month of post-test.

Sample

The pre-test screening was acquired from 39 female students (age ranging from 20-23 years) from Baby Memorial College of Nursing, Kozhikode, Kerala State, India. From this sample twenty (N=20) were selected from this study. The students who score high on the variable test anxiety and low in achievement motivation. The samples were selected by using a purposive sampling.

Tools Used

Test Anxiety Scale: The scale was developed by Sharma, V. P. (2000). The questionnaire has 25 items, each having 5 response opinions, ranging from minimum to maximum test anxiety. The reliability of the scale was .92.

Achievement Motivation: This scale was developed and standardized by Bhargava, V. P. (2009). This scale consists of 50 items of incomplete sentences / items / which are to be completed by the subject by putting a check mark on any one of the three alternative responses given against each item. Reliability of the scale was determined by test-retest reliability which was .91 and the validity shows .85 with educational achievement test.

Intervention

According to Merriam-Webster dictionary, cognitive behaviour therapy is a psychotherapy that combines cognitive therapy with behaviour therapy by identifying faulty or maladaptive patterns of thinking, emotional response or behaviour and substituting them with desirable patterns of thinking, emotional response or behaviour. CBT was given in group. The researcher focused on negative automatic thoughts of the students for which most of the part they get during test situations. For test anxiety, techniques such as mindfulness, thought stopping technique, breathing exercises and positive affirmation was administered to the students. To enhance achievement motivation, the researcher focused on guided imagery technique, goal setting and story telling method. CBT was given for 20 students in a day for about 60 minutes for a week.

First session: The researcher administered pre-test questionnaire and explained the basic concept in Cognitive Behaviour Therapy. Its significance in alleviating psychological problems.

Second session: The researcher exposed students to Mindfulness. This helped students to aware Negative Automatic Thoughts.

Third session: The researcher made the students to label the Negative Automatic Thoughts (failure, loser, not lovable, uncaring and so on). Role Play was introduced, here each student plays both role, 1. Be a friend and sharing her perspective about the problem of her friend told. 2. Sharing her problem to her friend and knowing friend's perspective. Activity schedule was given as home work

Fourth session: The researcher exposed the students to breathing exercise (belly breathing, breathing with counting, pranayama). Researcher helped the students to identify the connection between emotion and physical changes.

Fifth session: Thought stopping technique was practiced. Researcher helped the students to reframe unhelpful thinking with more positive affirmation.

Sixth session: Mindful eating, mindful walking and mindful reading were introduced.

Seventh session: The researcher focussed on goal setting, storytelling and guided imagery meditation for enhancing achievement motivation.

Eighth session: The researcher administered post-test questionnaire of test anxiety and achievement motivation.

Results and Discussion

The study on "Efficacy of Cognitive Behaviour Therapy in managing Test Anxiety and in Enhancing Achievement Motivation among Nursing students". The study was conducted in Baby Memorial college of Nursing, Kozhikode, Kerala by the technique of purposive sampling method. Twenty Nursing students in the age range of 20-23 were selected for the study. They were administered by Case Study Schedule, Test Anxiety, and Achievement Motivation Questionnaire.

The results of the study were analyzed, tabulated and discussed in below headings.

Table 1
Frequency of Demographic Details of the Nursing Students

		<i>Frequency</i>	<i>Percent</i>
<i>Age</i>	20	4	20
	21	13	65
	22	2	10
	23	1	5
<i>Gender</i>	<i>Female</i>	20	100

Percentages are rounded off

Table 1 show the frequency demographic details of the nursing students who participated in the study. The age distribution of the students were observed as 20% of the students belong to the age range of 20 years, the majority 65% of the students fall under the age category of 21 years, 10% of the students were from the age range of 22 years and only 5% of students belongs to 23 years of age. In gender category, all 100% of the students belongs to female gender.

Table 2
Mean and Standard Deviation of Test Anxiety Before, After and Follow-up sessions of Cognitive Behaviour Therapy Intervention

Variables	Groups	Phases	Mean	SD	N
Test Anxiety	Nursing Students	Before	76.00	10.68	20
		After	60.80	6.17	20
		Follow-up	58.90	4.74	20

Table 2 shows the mean and standard deviation of test anxiety of the sample before, after, and follow-up of the nursing students. Mean and standard deviation for test anxiety for before cognitive behaviour therapy program was 76 and 10.67, mean and standard deviation for test anxiety before after cognitive behaviour therapy program was 60.80 and 6.06 and the follow-up phase, the mean and standard deviation was 58.90 and 4.75. All the three mean and standard deviation of before, after and follow-up, indicates clearly that there are clear differences has been observed in the scores which indicates that test anxiety has been reduced among the students.

Table 3
Repeated measures ANOVA for Test Anxiety during Before, After and Follow-up on Nursing Students

Variable		Type III Sum of Squares	df	Mean Square	F
Test Anxiety	Sphericity Assumed	3513.733	2	1756.867	40.768**
	Greenhouse-Geisser	3513.733	1.091	3221.778	40.768**

Huynh-Feldt	3513.733	1.106	3176.235	40.768**
Lower-bound	3513.733	1.000	3513.733	40.768**

** - Significant at 0.01 level

The Repeated Measures ANOVA for the Test Anxiety is presented in the above tables. It clearly indicates the significant differences in the Before, After and Follow-up assessment of the students. It was found to be significant at 0.01 levels. The results showed that compared to before score, there was a significant reduction was observed in the level of test anxiety in after cognitive behaviour therapy program. Therefore, the taught techniques such as breathing exercise, mindfulness played a major role in reducing test anxiety among the participants.

Table 4

Pair wise Comparison for before, After and Follow-up Phases of Cognitive Behaviour Therapy among Nursing Students in Test Anxiety

Measure	Group	Phases	Mean Differences	Sig.	
Test Anxiety	Nursing Students	Before	After	15.200*	.000
			Follow-up	17.100*	.000
		After	Before	-15.200*	.000
			Follow-up	1.900*	.025 (NS)
		Follow-up	Before	-17.100*	.000
			After	-1.900*	.025 (NS)

* - Significant at 0.05 level

NS - Not Significant

Table 4 shows the pairwise comparison in test anxiety of nursing students. Bonferroni Post-hoc analysis proved that test anxiety reduced significantly when compared to before and after phases of cognitive behaviour therapy. It clearly indicates that there was a high mean difference between before and after cognitive behaviour therapy was 15.200 and before and follow-up phases of the cognitive behaviour therapy program were 17.100 which were statistically significant and the mean differences between after and follow-up was 1.900 which was statistically not significant. Thus, the impact of cognitive behaviour therapy had a greater impact on reducing test anxiety among nursing students but did not further improve in the follow-up phase, but it was sustained. Students were taught how to handle their test anxiety and also, and they were able to manage their level of test anxiety.

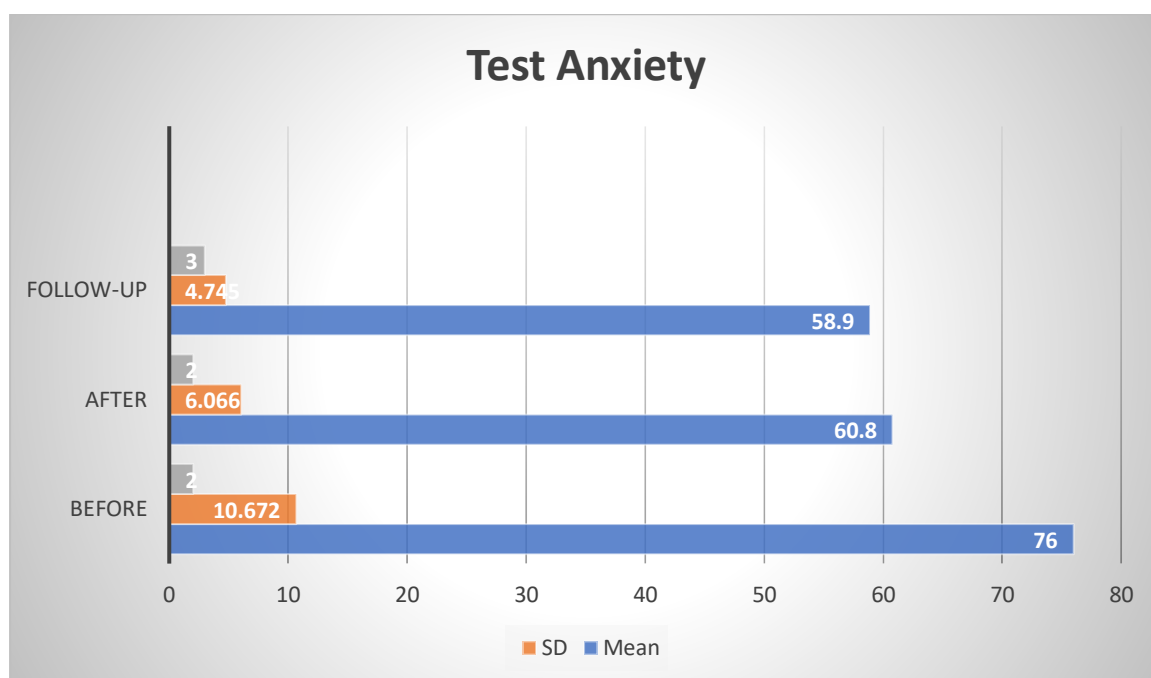


Figure 1
Nursing Students during Before, After and Follow-up phases of Cognitive Behaviour Therapy in Test Anxiety

Table 5
Mean and Standard Deviation of Achievement Motivation Before, After and Follow-up sessions of Cognitive Behaviour Therapy Intervention

Variables	Groups	Phases	Mean	SD	N
Achievement Motivation	Nursing Students	Before	17.55	3.967	20
		After	20.75	1.118	20
		Follow-up	20.85	1.226	20

Table 5 shows the mean and standard deviation of achievement motivation of the nursing students before, after and follow-up phases. The mean value observed was 17.55 and standard deviation values was 3.967 was scored during before cognitive behaviour therapy program, the mean value observed during after cognitive behaviour therapy program was 20.75 and standard deviation value obtained as 1.118. The mean values obtained during follow-up phase was 20.85 and the standard deviation score was 1.226. Here, it is evident that the cognitive behaviour therapy program was highly effective in increasing the level of achievement motivation among the students.

Table 6

Repeated measures ANOVA for Achievement Motivation during Before, After and Follow-up on Nursing Students

Source	Type III Sum of Squares	df	Mean Square	F
Sphericity Assumed	4272.233	2	2136.117	2555.271**
Achievement Motivation	Greenhouse-Geisser	1.618	2640.032	2555.271**
	Huynh-Feldt	1.747	2445.542	2555.271**
	Lower-bound	1.000	4272.233	2555.271**

** - Significant at 0.01 level

Table 6 shows the results of Repeated measures ANOVA in Achievement Motivation among Nursing students and it clearly indicates the significant differences. The results implies that there is a significant differences observed in the increases level of achievement motivation after cognitive behaviour therapy program. The techniques such as guided imagery and affirmation played a vital role in increasing the level of achievement motivation among the students.

Table 7*Pair wise Comparison for before, After, and Follow-up Phases of Cognitive Behaviour Therapy among Nursing Students in Achievement Motivation*

Measure	Group	Phases	Mean Differences	Sig.	
Achievement Motivation	Nursing Students	Before	After	-3.000*	.001
			Follow-up	-3.300*	.003
		After	Before	3.200*	.001
			Follow-up	-.100	1.000 (NS)
		Follow-up	Before	3.300*	.003
			After	.100	1.000 (NS)

* - Significant at 0.05 level

Table 7 shows the pairwise comparison in achievement motivation of nursing students. Bonferroni Post-hoc analysis proved that achievement motivation was increased significantly when compared to before and after phases of cognitive behaviour therapy. It clearly indicates that there was a high mean difference between before and after cognitive behaviour therapy was -3.000 and before and follow-up phases of the cognitive behaviour therapy program was 3.200 which were statistically significant and the mean differences between after and follow-up was .100 which was statistically not significant. Thus, the impact of cognitive behaviour therapy had a greater impact on improving achievement motivation among nursing students, but did not further improve in follow-up phase, but it sustained. Students were taught how to

handle with the test anxiety and also, they were able to enhance and improve the level of achievement motivation.

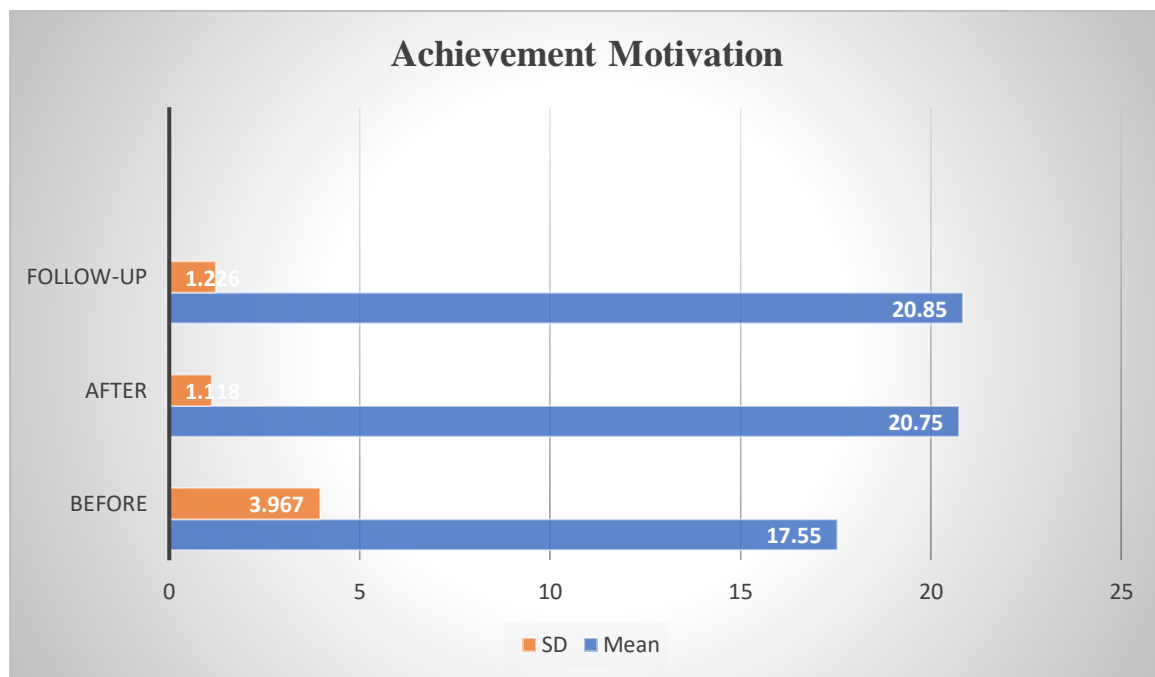


Figure 2

Nursing Students during Before, After and Follow-up phases of Cognitive Behaviour Therapy in Achievement Motivation

Figure 2 represents the before, after and follow-up test phases of nursing students in achievement motivation. The graph depicts a drastic improvement in the level of achievement motivation in the group after the therapy. An increased level of achievement motivation has been observed in comparing to before and after phases of the therapy, and after and follow-up shows a slight improvement. Therefore, cognitive behaviour therapy was highly helpful in improving achievement motivation among nursing students.

Conclusion

From the above study, it came into light the advantages of Cognitive Behaviour Therapy in reducing Test Anxiety and in enhancing Achievement Motivation. Hence it is significant for Nursing College counseling teachers to carry out Cognitive Behaviour Therapy in counseling students for Test Anxiety and Achievement Motivation.

Limitations

The present study was done only with Nursing Students in Kerala selected state.

Study was done only among female Nursing Students.

Sample size would be increased.

Other psychological variable may be included.

Suggestion

It is also vital for policy maker, examination boards and institution to organise workshop and training programs related to Cognitive Behaviour Therapy.

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