

Chapter III

Method

“Constant attention by a good nurse may be just as important as major operation by a surgeon”

- Dag Hammarkjöld

This chapter presents in details the objective of present study, the operational definition of variables and the tools used for the study. It also gives the sampling techniques used for the investigation, the research design, structural model of the study; the statistical tools used for analyses the data and the details of the intervention program in each of the following sections.

Section – I : Research Problem and Objective of the Study

Section – II : Hypotheses of the study

Section – III : Operational Definition of the Study

Section – IV : Research Design of the Study

Section – V : Flow Chart

Section – VI : Sample, Ethical Consideration, Inclusion and Exclusion Criteria

Section – VII : Tools used

Section – VIII : Statistical Analysis

SECTION – I Research Problem

Nursing profession is one of the finest areas dealing with patients of various health complaints. As a health professional it is highly stressful in several ways even though nursing career is considered to be the most valuable work. As an aspiring students choosing nursing degree gives the young female students a lot of energy to completely work and engage themselves in treating and healing the pains of the patients. However, during the initial days of the course was found to be highly stressful witnessing a lot more anxiety troubles. Therefore, this study aims at reaching out to answer the following research questions.

- Does Cognitive Behaviour Therapy reduce stress in female nursing students?

- Does Cognitive Behaviour Therapy help to reduce test anxiety in female nursing students?
- Does Cognitive Behaviour Therapy enhance achievement motivation in female nursing students?

Objectives

This research study focusing on the past, present and future implications of the stress, test anxiety and achievement motivation of female nursing students. The study helps to understand the impact of the stress and test anxiety when nursing students find it highly incompatible in dealing with their schedule and daily life situations. The core objective of this research was to understand the seriousness of stress and test anxiety among female nursing students, also understanding the achievement motivation aspects of female nursing students.

- To assess Stress, Test Anxiety and Achievement Motivation among Nursing Students
- To find out the efficacy of Cognitive Behaviour Therapy in reducing test anxiety, stress and also enhancing achievement motivation among nursing students.

SECTION – II

Hypotheses

The following are the hypotheses have been framed to fulfill the above stated objective

1. There will be a significant reduction in test anxiety among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
2. There will be a significant reduction in stress among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
 - 2.1. There will be a significant reduction in financial stress among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
 - 2.2. There will be a significant reduction in family stress among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy

- 2.3. There will be a significant reduction in social stress among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
- 2.4. There will be a significant reduction in education stress among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
- 2.5. There will be a significant reduction in ego threat among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
- 2.6. There will be a significant reduction in bereavement among nursing students Before, After and Follow-up without control group through cognitive behaviour therapy
- 2.7. There will be a significant reduction in separation stress among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
- 2.8. There will be a significant reduction in personal setback among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
- 2.9. There will be a significant reduction in health of others among nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
3. There will be a significant improvement in Achievement Motivation among Nursing students in Before, After and Follow-up without control group through cognitive behaviour therapy
4. Cognitive Behaviour Therapy will reduce test anxiety, stress and enhance achievement motivation among Nursing Students.

SECTION – III

Operational Definition

Test Anxiety When student feels uneasy before, during, or after taking a standardized academic test, they are said to be experiencing test anxiety, which is characterized as a significant increase in heart rate (measured with a heart rate monitor) a personal sense of unease

(rated on Likert scale from 1 to 10)

Stress

It is a physiological and psychological reaction to various external pressures or demands, which frequently produces feelings of tension, worry and trouble coping, changes in the heart rate, hormone levels, and behaviour such as heightened irritation or decreased concentration, may be involved.

Achievement Motivation

Achievement Motivation typically involves measuring a person’s drive to succeed or complete a task. This can be accomplished using a variety of techniques, including self-report questionnaires, behaviour observations and performance observations.

SECTION - IV

Research Design

The essential steps in a research programmed are selecting an appropriate design. Therefore, the experimental research designs method especially Before, After and Follow-up without control group design was used for the present study.

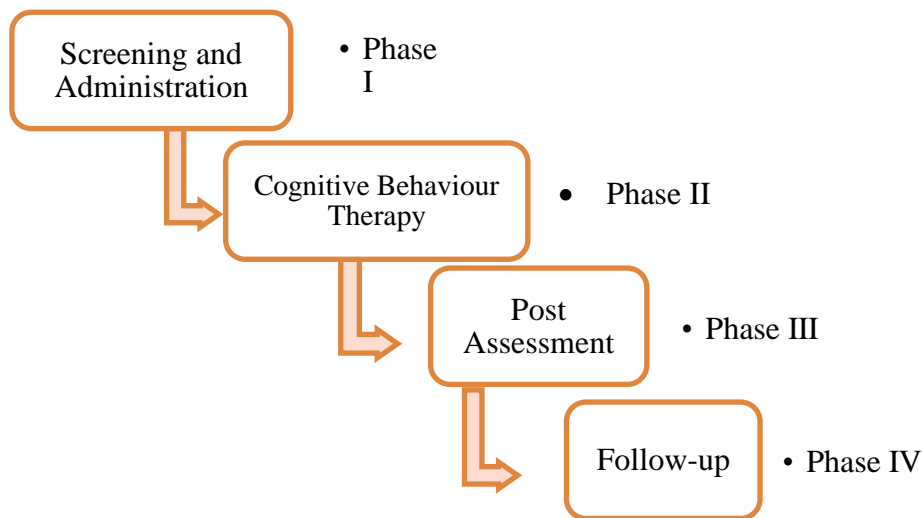


Figure 8. Before, After and Follow-up without Control Group Design

Conceptual Frame Work

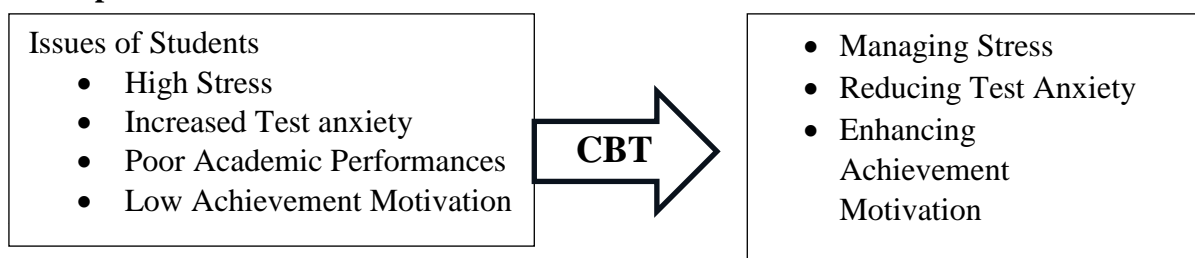


Figure 9. Conceptual Framework of the Research

SECTION - V Flow Chart

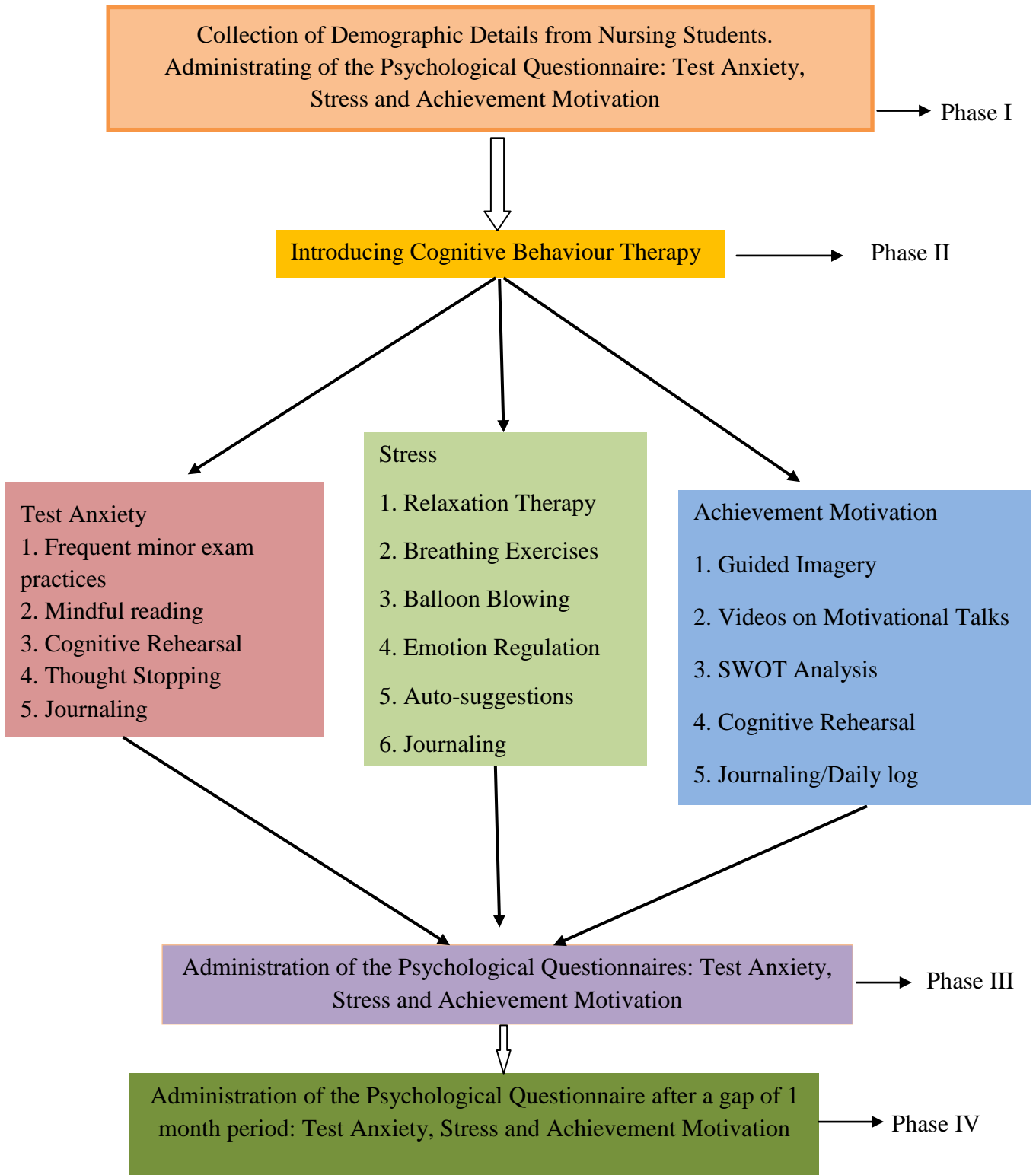


Figure10.Flow Chart

SECTION – VI

Pilot Study

The participants of the study were from the Baby memorial college of Nursing, Kozhikode, Kerala. The twenty students have participated in the pilot study.

Location of the Study

The data for the researcher was collected from 52 nursing students in Baby Memorial Nursing College, Kozhikode, and Kerala.

Sampling Procedure

The participants were recruited through the purposive sampling technique. One hundred and fifty students have participated in the study. Among that 52 students were selected for the study. They were divided into three batches.

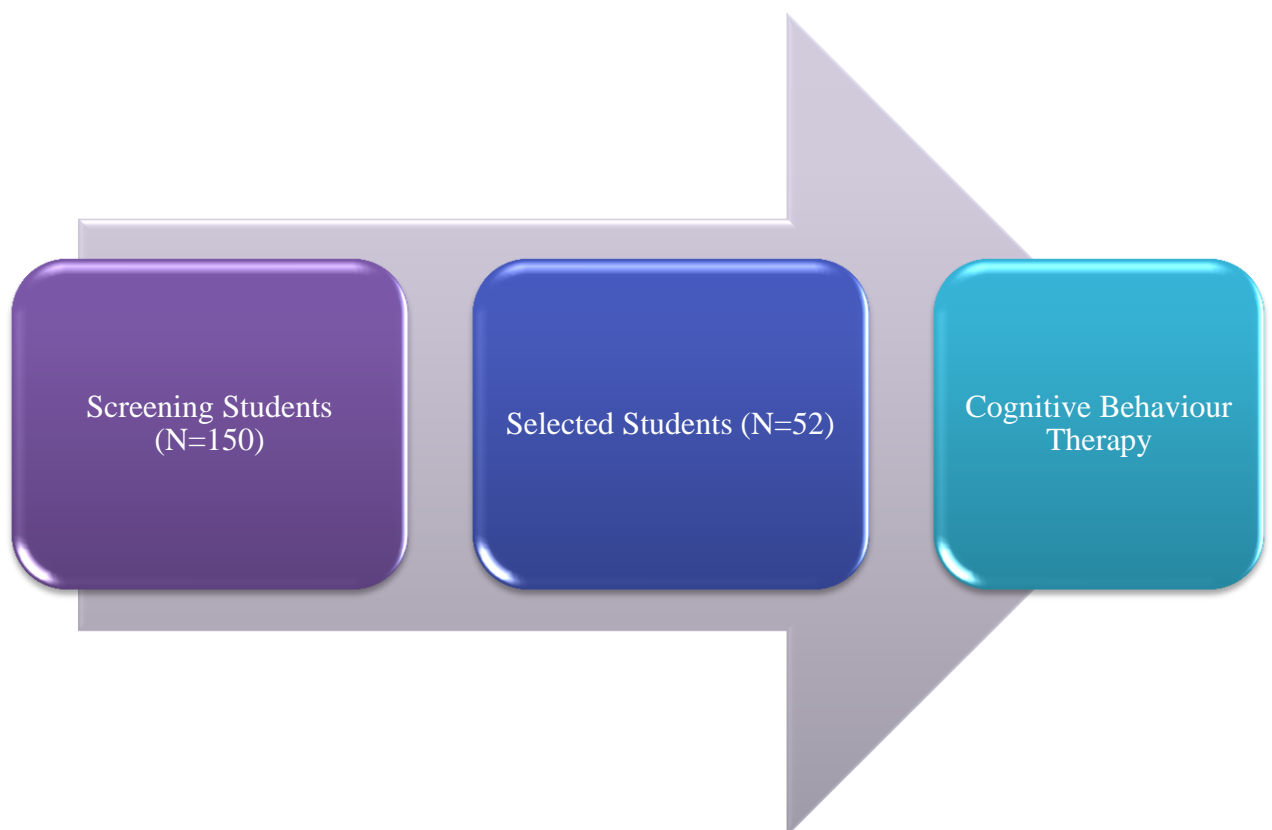


Figure. 11.Sampling Procedure

Institutional Human Ethics Committee

The proposal was submitted to the scientific committee of the Baby Memorial College of Nursing at the Baby Memorial Hospital, Kozhikode, Kerala. Prior to conducting the research, ethical clearance was obtained from the hospital's research ethics committee. The ethical clearance approval number has been enclosed in (**Appendix I**).

A proposal was also submitted through the supervisor and Head of the Department to Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu, India and obtained permission to conduct the present study. Before conducting the study, ethical clearance has been obtained from the university ethical committee. The ethical clearance approval number has been enclosed in (**Appendix I**). Informed written consent was obtained from the participants. During the data collection, the procedure was explained to the students and told that information would be kept confidential. The students were specified freedom to withdraw from the study at any stage. The tool was given to each student to give self-report by providing a peaceful and relatively environment is spacious meeting hall arrangement for the institution. The above consideration was followed for Phase I, Phase II, Phase III and Phase IV.

Inclusion Criteria

- The students who scored high in test anxiety
- The students who have scored high in stress
- The students who have scored low in achievement motivation
- Female participants were included in the study
- Students who consented and willing to take part in the therapy

Exclusion Criteria

- Students who were third and fourth year were excluded
- Students from other health and allied courses were excluded
- Students who were affected by COVID were excluded

SECTION - VII

Tools Used

- Informed Consent Form was used to get the consent from the college nursing students
- Demographic Details was evolved to collect the personal details from the participants.
- Test Anxiety (Annexure VI)
- Student Stress Scale (Annexure VI)
- Achievement Motivation (Annexure VI)

Informed Consent

Informed consent form developed by the researcher, providing a brief description of the purpose and procedure of the research, obtaining their consent to take part in the research and also explaining their rights to withdraw from the research if they are willing to.

Description of the Tools

Test Anxiety (Appendix IV)

Test Anxiety Scale was developed by Sharma (2000). It includes 25 items each having 5 response opinions ranging from minimum to maximum test anxiety.

- First Alternative – 1
- Second Alternative – 2
- Third Alternative – 3
- Fourth Alternative – 4
- Fifth Alternative – 5

The answers ticked by the participants are to be taken into consideration and the interpretations would be drawn for each situation. Based on the responses the students may be interpreted as

- Extremely high (Hyper) Test Anxiety
- High Test Anxiety

- Normal Test Anxiety
- Low Test Anxiety
- Extremely Low Test Anxiety

The reliability coefficient of stability by Test-Retest method was .92 and the validity of the test was 0.76 respectively.

Student Stress Scale (Appendix IV)

The Student Stress Scale has developed by Manju Agarwal (2012). It includes 64 questions to be responded to only if the subject has experienced stressful situations in the past year. The subject mark their responses on a Likert scale from 1 – 7, were

- 1 – No stress at all
- 2 – Very little stress
- 3 – Somewhat stress
- 4 – Average stress
- 5 – Much Stress
- 6 – Too much Stress
- 7 – Unbearable Stress.

Students who secured above 60% in any of the sub-scale of the Student Stress Scale were considered at high risk of potential stress. The Students Stress Scale is one of the standardized questionnaires, and the reliability and validity were established. The tool reliability is 0.87 (Mvrraju, 2018).

Sub Scales of Student Stress Scale

Financial Stress

Financial stress may lead to a variety of unhealthy behaviours and limited resources. Unfortunately, the resources are not enough to meet the needs and want of an individual.

Family Stress

Family is a part of an individual's immediate environment, any conflict amongst family members can cause stress. Family member's conflict may directly or indirectly affect an individual.

Social Stress

Social Stress can appear in several social situations, especially relationship, a sense of belonging within a group, etc.

Education stress

Educational stress can occur in various cases, i.e. failure in an examination, the anxiety of performing well in an examination, incomplete course or unhelpful teachers or a hostile academic environment.

Ego threat

Ego threat means a threat or a significant obstacle to one's Self-esteem, worth and image.

Bereavement

Bereavement is the fact of being dispossessed or bereaved of something or someone. It is the period of sadness that you feel when you lose someone. It causes an intolerable amount of stress, and people often slip into rejection and depression.

Separation stress

Separation Stress is mental and physical stress arising from separation from a near one or pets or materialistic possessions.

Personal setback

Personal setback consists of losing a position or title or going a step-down, which meant a great deal to individuals and society.

Health of others

The health of others includes the adverse or worsening health of someone. Adolescents cannot make the individual feel better.

Achievement Motivation (AppendixIV)

Achievement motivation scale was constructed by Bhargava (1994). The test consists of 50 items of incomplete sentences/items/which are to be completed by the students by putting a check-mark on any one of the three alternative responses given

against each item. The reliability of the test is .78 and the validity of the test is .75. The students who have secured a score of

- 23 above – High of Achievement Motivation
- 20-22 – Above Average Level of Achievement Motivation
- 17-19 – Average level of Achievement Motivation
- 15-16 – Below Average Level of Achievement Motivation
- 11-13 – Low Level of Achievement Motivation

Table 1:

Intervention Schedule

1. Identification and analysis of problem

- Rapport establishment
- Identification of problems
- Brief outline of dealing issues

2. Elucidate upon test anxiety with Cognitive Behaviour Therapy

- Brief explanation on cognitive behaviour therapy
- Understanding the meaning of Test anxiety
- Test anxiety during examination
- Physical and Psychological changes in Test Anxiety
- Learning coping styles and patterns of behaviour
- Assigning homework and journaling

3. Cognitive Restructuring

- A detailed explanation of the chief complaints
- Analysing maladaptive behaviour, taught, self-monitoring
- Coping skills, self-reinforcement, role play
- Assigning homework

4. Practice and Learning New Skills

- Evaluation and steps in progress
 - Identifying their difficulties or issues they experience
 - Planning new set of beliefs, behaviour and emotions
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- Practicing in a simulated situation
 - Assigning homework

5. Explanation of reducing stress with Cognitive Behaviour Therapy

- Understanding stress and its physiological changes
- Explaining the benefits of stress-free academic examination
- Coping skills and learning techniques to reduce stress
- Assignment

6. Cognitive restructuring

- **Identifying stress causing and/or triggering situations**
- Maintaining calm mind-set
- Practicing mindful breathing to reduce stress
- Assignment homework and journaling

7. Practice of learning new skills

- Maintaining calm and composed mannerism
- Relaxation therapy
- Improved interpersonal relationships
- Journaling

8. Explanation of achievement motivation with cognitive behaviour therapy

- Understanding the basic concept and meaning of achievement motivation
- Identifying the motivating factors in daily life situations
- Journaling

9. Learning New belief systems

- Evaluation and assessment of progress
 - Rectifying minor issues
 - Practicing the techniques in simulate situation
 - Watching motivational videos
 - Assignment and Journaling
-

10. Skill practices

- Coping skills
- Auto-suggestion
- Relaxation
- Emotion regulation
- Cognitive rehearsal

Session 11-15: Session 2-11 was repeated each day along with skill training

- Recap of all sessions
- Techniques on relapse prevention

PHASE III: After Therapy

- Data collection with the same set of questionnaires
- Feedback from the students

PHASE IV: Follow-up

- Data collection was done after one month
- Difficulties faced during time interval between after phase to follow-up phase
- Coping skills used and outcomes
- Motivating the students to continue the coping skills
- Relapse prevention techniques
- Final termination

Table 1 depicts the intervention schedule to be followed throughout the Cognitive Behaviour Therapy programme. With the aid of this intervention schedule, the session to be conducted was well planned and scheduled accordingly and executed in perfect manner without any distribution. Each session was discussed briefly in the below mentioned headings.

PHASE – I

Before Intervention Phase

During the before intervention phase, the questionnaire was distributed to the participants and the researcher instructed the students to complete their personal details

(demographic data), the questionnaires on test anxiety, stress and achievement motivation was distributed and the students were advised to respond to each statement carefully, and they were also informed that there is no time limit but they were requested to complete the questionnaire within the given time. The students were strictly informed not to skip any of the statements. As there is no right or wrong responses, the students can give their response without biases. Also, the researcher notifies the need of data collection without communicating the purpose of the research in order to avoid biased responses.

PHASE II

Administering Cognitive Behaviour Therapy

The researcher has completed the training course conducted by the department of Clinical Psychology (Behavioural unit), NIMHANS, Bengaluru. Cognitive Behaviour Therapy was given to all 52 students after the pre-assessment by the researcher. The intervention consists of various techniques involved in cognitive behaviour therapy. The training was conducted in 15 sessions, for three groups, twice a week covering all three groups. The time duration of each session was two hours. The session includes identifying cognitive distortions, which leads to increased level of test anxiety, psychological and physiological symptoms of test anxiety and stress, sharing experiences, open talk, motivational videos, role play, challenging negative thoughts, positive self-talk, continuous practice of skills, breathing practices, SWOT analysis to improve achievement motivation, relaxation therapy. The intervention was held at Baby Memorial Nursing College at Kozhikode, Kerala. There were a total of 52 nursing students; they were divided as 17 students in two groups and 18 in one group. The complete intervention was done at conference hall to ensure a relaxed and convenient space to maintain confidentiality.

Session I

The first session of the intervention programme was started with an ice-breaking and warm-up sessions. The researcher had a cluster of instructions to cover the initial session using self-introduction about the researcher and also from the participants and few mind games were conducted to draw students' attention completely and also fun elements were added to reduce the level of stress and developing interest and curiosity about the intervention programme. Further, the students were given few tongue twister games to make them feel free and engage in the programme in well efficient manner. Rapport

building was well established during this session and students started to communicate better with one another. This session was used as a base to uncover the general issues that as nursing students what all they experience in their day-to-day hospital and college set-up. It includes anxiety, disappointments, fear of future, sense of doubtfulness, irritable moods, health issues etc., the first session was found to be effective in dealing with the issues and the practical difficulties of the nursing students and the ways to rule out few issues has been discussed.

Session II

A short review was given about the Session I; this review helped the students to understand their level of attachment and importance they give to the existing major issues on test anxiety, stress and achievement motivation. Before addressing the key aspects, the students were given a brief explanation about cognitive behaviour therapy, to unfold the clarifications from the students with regards to the test anxiety. Once, the nursing students were given a good discussion upon CBT, they were taken into the topic of test anxiety.

Initially nursing students were allowed to have a general discussion upon test anxiety. Students were asked to feel free and express their emotions and thought about test and test appearing situations. An explanation about anxiety meaning and definition was given to understand a basic concept of anxiety and the symptoms of anxiety. Once students understood about the causes and symptoms of anxiety, students were given a good explanation about the physiological and psychological symptoms of anxiety. On clear understanding about the meaning of anxiety and its symptoms, slowly the students were taken into the actual topic called test anxiety.

Test anxiety meaning, causes and symptoms were briefed to the nursing students. Later on students gained insight about the nature of test anxiety and its effects on physiological and psychological changes occurs being anxious. Students were allowed to express their experiences during written and/or practical examinations. Those typical experiences were noted down for better understanding about the test anxiety.

Furthermore, simulated situations were narrated to different group of students in order to display the actual behaviour of the students during examination. Typical behaviours such as forgetting, shivering, avoidance, poor performance were picked up for

further detailing. Then, the students were taught with few coping skills and pattern of behaviour which they were supposed to follow during examination time.

The end of the session was used for journaling and homework. The students were asked to maintain the journal to record their behaviours and thought process on thinking about the exam or exam related events or causes that influence the behaviour of the student.

Table 2:

Journaling/Daily Log: Test Anxiety

Session Test Anxiety					
Situation	Feelings	Unhelpful thoughts/ behaviours	Alternative Thoughts	Alternative Behaviour	Feelings after alternative thought and behaviour

Session III

The session III began with a small recap of the past session to share their experience on following the journaling/homework. This session was focusing more on the chief complaints in order to concentrate on brain storming to come out of the presenting complaints. Students reported that being more anxious towards examination; they develop a sense of failure and fear about of future in failing the examination. Few students have reported that increased test anxiety leads to increased urge to use washroom, while few other students informed that they completely forget the concepts and answers which were already learnt. Common issues such as faint, nausea, anger, headaches, palpitations, frustrations, inability to concentrate were the symptoms which has been reported as a repeated course of symptoms during or before appearing to an examination.

On analysing the chief complaints, especially the thought process of the students, they were taught with few coping skills. For instance: Students were informed to take minimal test on daily basis, as a process of exposure technique, a small quantity of test the students were allowed to take. This helped the students to gain confidence towards approaching the test effectively. Self-reinforcement was taught to the students to maintain

the behaviour also students were asked to have a consistent self-monitoring about the physiological and psychological changes before facing examination. This helps them to take precautionary actions to avoid unnecessary troubles during examination.

Finally, the session ends informing the students to continue their daily log activity to keep on monitoring their progression level.

Session IV

Review of previous session was given. This session concentrates on the steps involved in reducing test anxiety. They are:

- Relaxation techniques
- Mindful reading
- Get enough sleep
- Regular meal intake
- Increased study time
- Thought stopping

The students were also taught to improve their cognitive aspects such as positive thought about the exam and the result, this method of approaching examinations was way more effective and useful to the students as they became more capable of identifying the challenging thoughts and able to use appropriate technique to overcome the existing issue. Therefore, it helped them to improve their academic performance not only their marks but also their way of handling a similar situation even in their hospital training and handle patients effectively.

Session V

Session V was initiated with a short recap of the session IV which acts as a motivating factor to continue a new behaviour by few of the techniques taught. This session dealt with the student's level of stress in various aspects such as family stress, financial stress, ego threat, bereavement, health of others, and so on. Prior the students were taught about stress and its consequences. They were briefed about the meaning and concept of stress and its different forms. As a medical professional student, stress can be experienced in various forms such as physical stress, psychological stress, family stress, academic stress, professional stress. Therefore, students were given an opportunity to

identify and rank the stressors that has more influence over their personal and professional life.

Students were taught about the physiological and psychological changes which occur due to stress. Symptoms such as increased heart rate, palpitations, breathe shortness, anger, sleeplessness, poor appetite, poor concentration, poor interpersonal relationship, negative thoughts about self and others, increased inferiority complexes. Such symptoms lead to negative consequences among students. Therefore, students were given a short talk about the major benefits of stress-free learning methods and few coping skills which in-turns helps the students to reduce the level of stress and test anxiety.

Session V was concluded with a CBT daily log/journaling. This journaling practice involved as introspection in analysing the effects of stress based on the days in a week. It helped the students to identify the increased course of stress based on week schedule.

Table 3:

Journaling/Daily Log: Stress

Stress				
	Pleasurable activity	Activity with a sense of achievement	Physical activity	Social activity
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				

Session VI

Session VI began with a short review of the previous sessions. Students reported that they became more skilled in dealing with the stress and test anxiety. The current

session concentrated highly about the major stress causing or triggering event and/or situations and to rule out those situations using the taught techniques.

In this session, the students were provided with an activity involving 3 groups. Each group of students were asked to make a circle so that the next group of students would circle around the first group, and the same would be followed by the third group. Only 3 volunteers would be picked up from each circle and ask them to be at the centre of the inside circle. Now the rules of the game will be disclosed stating, those three students who were inside the circle will try to escape whereas the students guarding may not allow them to escape from the 3-tire circle. The inference from the game was, to understand that stress can emerge from any direction; it can affect one person in different forms, so it is always important to stay alert and handle stress in any form that it may appear.

The students were taught with simple breathing exercises to control their emotion and reduce the level of stress at the fastest phase. The session ended up by motivating the students to carry on with their daily journaling assignment.

Session VII

This session started with a few minutes recap of the previous sessions. The current session was fully designed with relaxation therapy. Students were asked to lie down on the floor using a yoga mat. They were asked to lie comfortably. The researcher instructed the students to follow only the researcher's command. The relaxation therapy was given to the students for a period of an hour to completely relax them. Practicing relaxation therapy has improved their interpersonal relationship in both personal and social life, enhanced inner peace of self, able to make good decision making.

This session was concluded in encouraging students to continuing their journaling practices.

Session VIII

A small review was done for the previous sessions, and this session dealt with the factor influencing achievement motivation. First the students were taught with what is motivation? Later, they were taught about why motivation is an important factor, Benefits of better motivation, Importance of motivation. Furthermore, the students were given an introduction about achievement motivation and its benefits. Students were given real life examples of achievement motivation and identifying the motivating factors in daily life

situations. Hence, the students were given homework assignment in understanding what all the achievement motivating factors in their life.

Session IX

This session covered all the new belief systems in evaluation and assessment process of achievement motivation among the students. It also helps them to rectify the minor issues which actually acted as a hindrance of their present growth. Practising the taught techniques, watching motivation videos, listening to motivational real-life stories, acting as a role model for the younger sibling all would add credit to an individual's increased achievement motivation. The students were advised to continue their homework assignment.

Session X

This session filled with techniques such as coping skills, auto-suggestion, relaxation, emotion regulation, cognitive rehearsal. Therefore, the students became highly sensitized towards their strengths and weakness; Opportunities and talents to identify their abilities and focus on their weakness to change or transform for the betterment. Journaling was the assignment given at last as a concluding part.

Session XI-XV

All these 5 sessions were a continuous practice of entire previous sessions from session I to Session X.

After Cognitive Behaviour Therapy

After intervention program, assessment was done with the same set of questionnaire set the end of the last session. The participants were instructed clearly to take their own time and answer genuinely to the statements given in the questionnaire. There were no right or wrong responses, but it will be used for assessing test anxiety, students stress and achievement motivation. They were also informed that the obtained data will be used only for the research purpose. They were assured that the obtained data will not be used for discriminating of the students. On briefing all details clearly, the students were allowed to take time in filling out the questionnaires.

PHASE IV

Follow-up Phase

After one month of the intervention program the participants were reassessed with the same set of questionnaires which were used during before and after intervention program. Once again, the participants were administrated clearly about the questionnaires and asked the participants to give genuine response in answering each question.

Statistical Analysis

The data was analysed using SPSS 22.0 for Windows (SPSS). Descriptive statistics such as Mean and Standard Deviation was used to identify the intensity of the problems among female nursing students. Percentage Analysis was done to assess the demographic details. Repeated Measures ANOVA, Bonferroni post-hoc analysis was computed to ascertain the data. Significant results were further illustrated using graphs. The results of the discussion are included in the fourth chapter.