The purpose of this study was to explore the effect of a progressive exercise and teaching program on the anxiety level of C.H.D. patients. Sixty-two C.H.D. patients who were attending a community cardiac therapy program participated in this study. This program consisted of three series of increasingly more strenuous exercise and 28 teaching sessions. It is offered twice a week. The patients were divided into three groups according to how long they had attended the exercise program. They also were divided into high and low attendance groups according to how often they had attended the teaching sessions. The Spielberger's State Anxiety Inventory was used to measure anxiety level. The data were analyzed for the three groups in order to detect the effect of progressive exercise on anxiety level. The data also were analyzed for two groups to detect the effect of the teaching program on anxiety level. The results showed that patients who had attended the exercise program had significantly less anxiety level than those who had not yet attended the program. However, there was no significant difference found between the groups with different levels of strenuousness of exercise. The results also indicated that there is no significant difference between the patients with high attendance and low attendance of teaching sessions. This study suggests that exercise therapy is an effective intervention for decreasing anxiety level of C.H.D. patients.
INTRODUCTION

Statement of Problem

Disease of the heart and blood vessels is the leading cause of death in the United State. Two third of these deaths have resulted from coronary heart disease (C.H.D.) (U.S. Department of commerce Bureau, 1981). Today there is a high rate of survival because of improved treatment measures. Attention and effort are being directed toward rehabilitation. The goal is to restore patients to productive and independent living; to achieve optimal physical, psychological, and vocational potentials; and to prevent recurrence (Segev, Schlesinger 1981).

Studies have indicated many patients of C.H.D. have emotional problems (Ginspry and Statten 1970). They usually have anxiety due to the threat of sudden death as well as self-doubts about the ability to remain employed and to function successfully as spouse, parent and citizen. Such anxiety may have a negative affect on the patient's readjustment to daily activities. Studies have pointed out that frequent or prolonged occurrence of stress conditions are significant variables in the development of another attack. Therefore anxiety must be identified as early as possible and reduced as much as possible. This may be accomplished by confidence established through the effective use of cardiac exercise and knowledge.

Patient teaching is a professional responsibility of the nurse, how can the professional nurse influence the individual's ability to cope with the anxiety of C.H.D.? Can the nurse make the experience of illness less anxiety producing through exercise and health teaching? This study will explore the effect of an exercise
and teaching program on the anxiety level of C.H.D. patients.

Significance

This study will help to gain useful knowledge for health professionals in the area of cardiac rehabilitation. It will be especially useful in providing information and confidence for the community cardiac exercise program and for health professionals employed by these programs.

Since the ANA commission on nursing research (1976) suggested that more studies be done on adaptation of patients to chronic illness, this study will contribute to a knowledge base which has a recognized deficit. Finally, the information from this study will aid C.H.D. patients in achieving optimal health status and thereby realize a savings in the cost of treatment and loss of productivity.

Framework

Anxiety theory: A threatening situation arouses anxiety. Threatening is a state in which the individual anticipates harm. Anxiety is the inevitable initial response to being threatened and will disappear if the danger is actually overcome by the coming process. However anxiety may remain the dominant response to threat when the source of threat remains ambiguous and the defense is unsuccessful (Lazarus, 1966). Anxiety is useful because it can prepare a person to act or react to a situation (Guyton, 1976). However a person's ability to function is limited or affected in a situation where the person experiences overwhelming anxiety (Rollo, 1950; Kubler-Ross, 1969). But anxiety level may be reduced after education and exercise.

Exercise

of other

1. Biochemical helps in the effective increas in a successful of storge fat for a se

2. Psychological intens of anger aggr and ess

3. Behavioral a s anxi with Rue

4. Mental co ans comm al

in

Health with health o a th that (Mic
Exercise theory: Exercise theory has its basis in a number of other theories.

1. Biochemical theory: Regular, progressive exercise helps an individual to keep physically fit by improving efficiency of the cardiovascular and respiratory systems, increasing strength and coordination of the neuromuscular system, enhancing cerebral circulation, utilizing stored energy more efficiently and thereby lessening fatigue, improving patterns of sleep and creating a sense of relaxation (Veniza, Ruegger, 1980).

2. Psychoanalytical theory: Exercise can release sexual tension. It is a socially acceptable expression of aggression. It allows for the resolution of conflict and promotes a sense of mastery which increases self-esteem and confidence (Veniza, Ruegger, 1980).

3. Behavior theory: Exercise can help an individual achieve a sense of relief with the elimination of tension, anxiety and depression. An individual may exhibit withdrawal symptoms when exercise is discontinued (Veniza, Ruegger, 1980).

4. Metaphysical (Meditative) theory: After exercise, the conscious mind becomes exhausted, freeing the subconscious so that thoughts flow spontaneously. This allows for decreased inhibitions and increases insight into one’s own behavior (Veniza, Ruegger, 1980).

Health teaching: Education is the process by which individuals and groups learn to promote, maintain and restore health objectives. The purpose of health education is to motivate a person to take the information and do something with it to keep himself healthier by avoiding actions that are harmful and by forming habits that are beneficial (Mico, et al., 1975). Patient education is an integral
part of caring. It can not be separated from the total health care delivery system. Patients have always had a need to know and to understand health alterations and preventive health measures (Duda McCormick, 1979).

Health education can take a variety of forms and be conducted in a variety of setting. Organized health education will increase the patient's understanding and compliance and reduce the use of medication, outpatient clinics and hospitalization. Similarly, much of the failure in medical care can be attributed to education requires trained personnel who are knowledgeable in both the health topic and the teaching-learning process (Duda McMormick 1979).

By combining these theories, the researcher of this study speculated that a heart attack is a threaten, a patient who has suffered an acute heart attack usually has anxiety, and the level of anxiety can be reduced through exercise and health education.

Review of Literature

Anxiety level: More and more studies have pointed out that psychological stress as an important direct effect on the development of C.H.D. (Oka, 1976; Chosney, 1982) and is a significant variable in the development of another heart attack (Roab, 1971; Selve, 1971; Rudy, 1980). C.H.D. patients are associated with anxiety, depression, change in self-image and loss of self-esteem (Hackett, 1973; Naughton, Hellerstein and Mohler, 1973; Granger, 1974; Owen, 1978; Gentry, 1979). Wishnie et al.(1971) reported that between 6 months and 1 year after a heart attack, 88% of C.H.D. patients are still either anxious or depressed, 55% have sleep disturbance, 38% have anxiety and 20% have depression. In preventive nursing education, education such as anxiety level can be reduced.
have not returned to work for psychological reasons, and 83% complain of weakness. Tyzenhouse (1973) studied 20 male C.H.D. patients who had a heart attack 20 months previously, interviewing the wife in her own home. Fourteen wives pointed out that the patient had personality changes, such as being more irritable, more demanding, easily upset, impatient, difficult to please and less tolerance of children. Eight wives pointed out that the patient became depressed and self-pitying.

A person's ability to function is limited or affected when he experiences overwhelming anxiety. Brockway (1979) found that the function of the vocal muscle was affected by anxiety level as measured by Spielberger's State-Trait Anxiety Inventory. In relation to C.H.D. patients, Nagel et al. (1971) found that in 52% of those patients were not working because of emotional problems and there was no clinical evidence of residual heart damage.

There is increasing evidence to indicate that failure to recognize, prevent and treat the psychological or psychosocial concomitant leaves a situation fertile for the development of psychological problems (Gentry, 1979). Therefore, attention to psychological problem is as important in the rehabilitation of the patient with C.H.D. as attention to physical problems (Trimble, 1974; Hackett, Rudy, and Cassen, 1978).

Exercise: Exercise has an integral role in any rehabilitation program for cardiac patients. The psychological benefit of exercise is supported by many authors. Hellerstein (1968) has shown that individuals participating in exercise programs have less depression and an increased sense of well-being. Individuals report less need for tranquilizers and sleep medications and have increased
ability to cope with stressful situations. Blackburn and Leon (1977) stated that cardiac rehabilitation programs using progressive physical exercise can produce physiological and psychological benefits in most patients. Vigor, endurance, and work capacity increase. The cardiovascular system becomes more efficient. Anxiety and depression diminish and self-confidence improves, Carson, Neophyton, Tucker and Simpson (1973) and Carson, Gelson, Neophyton, Phillips and Simpson (1978) studied post C.H.D. males in an exercise program. They found there was a statistically significant positive correlation between morale and exercise. Phyter, Mead, Fredrick, Belvin and Doane (1976) found that cardiac patients in an exercise program, sponsored by the cardiopulmonary research institute, developed a more positive attitude toward life and had an overall feeling of well-being. In a similar study by the Rehabilitation Service Administration, two groups of 325 C.H.D. patients were tested with Ketz Adjustment Scale. Scores showed that participants were less depressed, less negative, and experienced decreased anxiety and nervousness (Naughton, 1978). Kostrubata (1977) has identified four categories of psychological benefit of exercise: 1) a mild euphoria, 2) inability to hold on to anger, 3) a clearing of problems from the mind with solutions, and 4) relaxation.

In more recent studies, the benefits of exercise also was supported (Smith and Brandt, 1978; Donnelly, 1980; Naimark, 1980; Winslow, 1980; Dehn, 1980; Veniza, and Ruegger, 1980; Tillman and Feinman, 1981). They all found that exercise gives patients a sense of control over their own bodies and destinies; improves self-image, self-esteem, confidence, and a sense of well-being; stimulates creative thinking; improves integrative functioning; and decreases health.
and decrease anxiety.

Health teaching: Following a coronary heart attack, education becomes a key factor in facilitating movement toward optimal physical, psychological and vocational potentials (Argondizzo, 1978). However, there is much evidence that effective and consistent patient teaching is not being done by the members of the health team. Wishnie (1971) reported that in all of C.H.D. patient families, there was evidence of significant conflict. Seventy-five percent of the problems were the result of differences over medical instruction for convalescence. Nagel et al. (1971) also indicated that patients experience adverse emotional reaction related to inadequate medical instruction about fitness and work. This made the patients unsure about the amount of activity that is permissible after discharge. Scalzi (1980) indicated that conflict between patient and family results from misunderstanding. That health teaching may increase patient knowledge and help to improve compliance has been shown by many studies (Hecht, 1974; Neccoli and Brammell, 1976; Owen, 1978; Linde, 1979; Scalzi 1980). The effect of health teaching on the patient's anxiety level has been demonstrated by means of the anxiety scale (Walsh, 1971; Baker, 1976) and by measure of urinary potassium. However, the study by Nield (1971) failed to show that health teaching affects patient's anxiety.

Hypotheses

H1 The anxiety level of C.H.D. patients decreases over three increasingly strenuous stages of an exercise regime.

H2 After each stage, anxiety is less for those who have high attendance at the accompanying teaching sessions than those who have low attendance.

Assumption

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This study is based on the assumption that the initial post C.H.D. anxiety level is comparable for all C.H.D. patients.

Definitions

Anxiety level: The score as measured by Spielberger's State Anxiety Inventory.

Guided exercise program: An ongoing program which includes warm up exercise, progressive exertion of body muscle, walking and running. It meets two nights a week for one hour under the auspices of a cardiologist, an exercise physiologist (also a physical education professor) and two registered nurses. This program was designed by a hospital and is offered on a university campus.

Health teaching sessions: These are offered on the same university campus after each exercise session. The teaching sessions consist of 28 subjects (see appendix I) and are taught by two cardiovascular physicians, a physical educational professor and a registered nurse. Each session lasts a half hour.

High attendance at the health teaching session means that the patient has attended more than one half of the health teaching offered during the weeks of the preceding series.

METHODOLOGY

Study design

This study is a cross sectional study of the anxiety level of patients involved in a cardiac therapy program which is offered twice a week on an university campus. The cardiac therapy program consists of two parts. One is a guided exercise program which is divided into three series.
The other part of the program is the health teaching sessions which consist of 28 subjects (appendix I). These teaching sessions immediately follow the exercise program and are attended optionally.

The questionnaires which contained personal information and the Spielberger State Anxiety Scale (see appendix II) were distributed to all patients in each of three series. In addition, the same data are gathered from patients who were planning to participate the program but had not yet begun to do so.

First, the anxiety data were compared between three groups of patients, those who planned to participate, those who had participated less than 32 times, those who had participated more than 33 times. Next, the anxiety data were compared for each of the post-entering groups according to whether there had been high or low attendance at the concurrent teaching sessions.

Ethical consideration

Before the study, the researcher obtained permission from the Physical Education Department and the physician in charge of the medical aspects of the program. The purpose of this study was explained. Each participant had the opportunity to ask questions prior to participating. Voluntary participation was also explained. Written consent (see appendix III) was obtained from every participating patient. Since the questionnaire was neither physically nor mentally harmful, the patients were free from harm.
Every patient was assigned a code number. The data were recorded in relation to the assigned code number. Confidentiality was maintained regarding all information gathered.

Setting and sample

All of the patients in the cardiac therapy program met the criteria for participating in this study. Sixty two patients agreed to participate. The sample consisted of 17 patients who were planning to attend the program, 10 patients who had been admitted to series 1, 12 patients in series 2, and 23 patients in series 3.

Of this sample, 10(16.13%) were female and 52(83.87%) males; 7(11.29%) were single and 55(89.71%) were married; 1(1.61%) had a grade school education, 24(38.71%) were high school graduates, 8(12.90%) were A.D. graduates, 12(19.35%) had earned B.S. degree, and 17(27.42%) held the M.S. degree or higher degrees. There were 36(58.06%) who were working and 26(41.94%) who stayed at home; 1(1.61%) was between 30-39 years of age, 24(38.71%) were 40-49 years of age, 8(12.90%) were 50-59 years of age, 12(19.35%) were 60-69 years of age, and 17(27.42%) were more than 70 years of age; 38(61.29) were treated medically while 23(38.71%) had coronary bypass; 37(59.68%) had been hospitalized one time due to heart disease, 11(17.74%) had two hospitalizations, and 14(22.58%) had three or more hospitalizations; 20(32.26%) had been discharged from the hospital for 7 to 12 months, 9(14.52%) had been discharged 13 to 24 months, and 14(22.58%) had been discharged for more than 25 months.

Instrumentation

The instrument used to measure anxiety level was the State Anxiety Inventory by Charles D. Spielberger.
erger et al. This scale consists of twenty questions which ask participants to describe how they feel at a particular moment in time. The State Anxiety Inventory is a four-point scale. Ten items are scored directly and ten items are scored reversely in order to reduce the potential influence of an acquiescence response.

Spielberger et al. reported an internal consistency of test-retest ranging from 0.83 to 0.94. The stability coefficients were 0.16 to 0.54.

Data collection

Most of the data were collected at the program site before patients began to exercise. After explanations were given and written consents obtained, patients were asked to fill in the personal information and State Anxiety Inventory. Some of the data were collected at the patient's home by means of a mailed written explanation, consent form and questionnaire. There was no time limitation placed on completing the questionnaire. As soon as the participants had filled in the forms, they were returned to researcher. The duration of data collection was from February 28, 1983 to March 31, 1983.

FINDINGS

The purpose of this study was to explore the effect of progressive exercise and teaching program on the anxiety level of C.H.D. patients. The data were subjected to one-tailed t-test and F-test.

Hypotheses 1 that anxiety level of C.H.D. patients decreases over increasingly strenuous stages of an exercise regime was tested.

The F-test was used to determine if the difference between variance of three groups (group 1; the patients
who were going to attend the program; group 2: the patients who had attended the program less than 32 times; group 3: the patients who had attended the program 33 or more) was significant at the 0.05 level of probability. Table 1 indicates the variance analysis. The Multiple Range Test was used advancedly to determine where the difference is located. Table 2 shows these results.

### Table 1

<table>
<thead>
<tr>
<th>Source</th>
<th>d.f.</th>
<th>sum of squares</th>
<th>mean squares</th>
<th>F ratio</th>
<th>F.Pro.</th>
</tr>
</thead>
<tbody>
<tr>
<td>between groups</td>
<td>2</td>
<td>1559.66</td>
<td>779.83</td>
<td>5.076</td>
<td>0.0092*</td>
</tr>
<tr>
<td>within groups</td>
<td>59</td>
<td>9.64.03</td>
<td>153.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>61</td>
<td>10623.69</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*statistically significant

### Table 2

<table>
<thead>
<tr>
<th>Subset I</th>
<th>Group</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>3</td>
<td>31.05</td>
<td>33.13</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subset II</th>
<th>Group</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>43.18</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This hypotheses was supported as the F-test and Multiple Range Test indicate that there is a significant difference between three groups. And this significance is between group 1 and group 2 and between group 1 and group 3. No significant difference exists between group 2 and group 3.

---

2 and 3 were not significantly different from each other at the 0.05 level of probability.

The patients who had attended the program less than 32 times were not statistically significant different from the patients who had attended the program 33 or more.

The Multip Range Test was used advancedly to determine where the difference is located. Table 2 shows these results.
Hypotheses 2 that anxiety level is less for those who have high attendance at the accompanying teaching sessions than those who have low attendance was also tested.

The t-test was used to determine if the difference between means was significant at the 0.05 level of probability. Table 3 indicates the size of the groups, the means and the variances.

<table>
<thead>
<tr>
<th>size</th>
<th>mean</th>
<th>S.D.</th>
<th>Variance</th>
<th>t value</th>
<th>probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>group 1*</td>
<td>28</td>
<td>31.71</td>
<td>9.01</td>
<td>81.18</td>
<td>0.39</td>
</tr>
<tr>
<td>group 2*</td>
<td>17</td>
<td>32.76</td>
<td>8.47</td>
<td>71.81</td>
<td></td>
</tr>
</tbody>
</table>

*group 1: high attendance group  
group 2: low attendance group  
**not statistically significant

This hypotheses was not supported as the results of the t-test indicate that there is no significant difference in anxiety between high attendance patients and low attendance patients. In other words, the frequency with which the teaching sessions are attended does not affect anxiety.
DISCUSSION

Conclusion

This study points out the obvious effect of exercise on the anxiety level of C.H.D. patients. Patients who have attended the exercise program have lower anxiety level than those who have not attended the program. This result is concurrent with the literature which stated that exercise may be one means by which C.H.D. patients increase their self-concept and attain a better quality of life. However, the results of this study did not show that increasing the strenuousness of the exercise affects anxiety level. Therefore the progressive exercise regime may have a greater physical benefit than psychological benefit.

The results of this study also points out that the teaching sessions which accompanying the exercise program do not affect anxiety level. However, this does not mean that health teaching has no function. In fact, the patients in this study had low anxiety scores (Xs of 31.71 and 32.76 within a range of 20-80). These scores reflect much lower anxiety than the college females in Spielberger's study (see Table 4).

Table 4

<table>
<thead>
<tr>
<th></th>
<th>% of subjects with high anxiety levels</th>
<th>% of subjects with low anxiety levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spielberger's study</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>This study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>52.9%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Group 2</td>
<td>26.1%</td>
<td>73.9%</td>
</tr>
<tr>
<td>Group 3</td>
<td>22.7%</td>
<td>77.3%</td>
</tr>
</tbody>
</table>

The results of this study also points out the obvious effect of exercise on the anxiety level of C.H.D. patients. Patients who have attended the exercise program have lower anxiety level than those who have not attended the program. This result is concurrent with the literature which stated that exercise may be one means by which C.H.D. patients increase their self-concept and attain a better quality of life. However, the results of this study did not show that increasing the strenuousness of the exercise affects anxiety level. Therefore the progressive exercise regime may have a greater physical benefit than psychological benefit.

The results of this study also points out that the teaching sessions which accompanying the exercise program do not affect anxiety level. However, this does not mean that health teaching has no function. In fact, the patients in this study had low anxiety scores (Xs of 31.71 and 32.76 within a range of 20-80). These scores reflect much lower anxiety than the college females in Spielberger's study (see Table 4).
The data in Table 4 may be help to explain why the teaching sessions did not have a significant effect on the anxiety of the C.H.D. patients. Patients in the cardiac therapy program are assisted, guided, supported and taught in order to achieve their optimum physiological, psychological, social, and vocational status. The total program shall be taken into account as one attempt to account for the increasing percentage of patients with low anxiety levels.

Another interesting finding is the high percentage of the patients who had attended the program that are presently working (see Table 5).

Table 5

<table>
<thead>
<tr>
<th>Group</th>
<th>No. and % Who work</th>
<th>No. and % Who Stay at Home</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 (11.76%)</td>
<td>15 (88.24%)</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>16 (72.73%)</td>
<td>6 (27.27%)</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>18 (78.26%)</td>
<td>5 (21.74%)</td>
<td>23</td>
</tr>
</tbody>
</table>

Then this result is considered along with the lower anxiety level of C.H.D. patients, it demonstrates that there may be a relationship between anxiety level and work status. This result concurs with Wishnie's finding in 1971 which reported 38% of the patients had not returned to work because of psychological reasons. These studies provided good evidence that we need to recognize anxiety in the C.H.D. patients as early as possible and minimize it to the possible extent.
Limitation of the study

The study was conducted under some recognizable limiting conditions. The sample was drawn from a cardiac therapy program in one geographical area. Therefore, the subjects were not necessarily typical of all C.H.D. patients. Hence the results cannot be generalized. Furthermore, the nature of the study and the subjects created an inability to manipulate all variables which may have an affect on anxiety level of C.H.D. patients. Finally, the small sample size also restricts the possibility of generalization.

Implication and recommendation for future research

1) Future research on the anxiety of C.H.D. patients should be conducted using the experimental method. Each participant might be asked to fill in the same anxiety scale at various times throughout the progressively more strenuous exercise. This method would eliminate the sample variance and detect any real difference.

2) Further attention also should be given to an attempt to find all variables that may influence the rehabilitation of C.H.D. patients. This would not only increase basic knowledge, but also enable to design more vigorously controlled experimental studies.

3) Replication of this study with larger samples is recommended. If the data were gathered at the patient's home instead of at the program site, it would eliminate such bias in anxiety level as might be caused by the setting.

4) The effect of health teaching may be studied separately.

The results from this study suggest that the anxiety level of C.H.D. patients can be reduced through the
This information is useful for cardiac rehabilitation programs. It indicates the need to include exercise in any total cardiac rehabilitation program.
REFERENCES


Chesney, Magaret A. & Rosenman, Roy H. Type A behavior observation the past decade. Heart and Lung, 1982, 11, 12-16.

Dehn, the...

Donnet, qu...


Carri...


Carrity, T.F. Social involvement and activeness as predictors of morale six months after first myocardial infarction. Social Science and Medicine, 1973, 7, 199-207.


Walsh, Joan E. Instruction in psychiatric nursing, level of anxiety and direction of attitude change toward the mentally ill. *Nursing Research*, 1971, 20, 525.


Appendix I

Teaching Subjects

The Heart—Its Function and Structure
The Coronary Arteries—Structure and Disease
Risk Factors and Heart Disease
Coronary Counter Attack
Angina Pectoris
Type A Personality
Psychological Problems related to Coronary Artery Disease
Heart Catheterization
Electrophysiology of the Heart
Cardiovascular Bypass Surgery
Fundamental Principles of Exercise Physiology
Exercise, Lean Body Mass, and Weight
Exercise Prescription
Warm-up and Cool-down
Anaerobic and Isometric Efforts
Jogging Techniques
Medications and Exercise
Exercise during Environmental Extremes
Skin Splints, Muscle Soreness, and Stitch
Telemetry—The use in Cardiac Rehabilitation
Dietary Considerations in Heart Disease
Sexuality and Heart Disease
Dealing with Stress
Stress Management
Fighting the Weight Problem
Emergency Mitigation
Blood Pressure—Measurement and Significance
Vocational Implications in Coronary Artery Disease
APPENDIX II
SELF-EVALUATION QUESTIONNAIRE
Developed by C.D. Spielberger, R.L. Gorsuch and R. Lushene
STAI FORM X-1

CODE NUMBER DARE

Directions: A number of statements which people have used to describe themselves are going below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1. I feel calm ........................................... 1 2 3 4
2. I feel secure........................................... 1 2 3 4
3. I am tense ............................................... 1 2 3 4
4. I am regretful......................................... 1 2 3 4
5. I feel at ease .......................................... 1 2 3 4
6. I feel upset .......................................... 1 2 3 4
7. I am presently worrying over possible misfortunes 1 2 3 4
8. I feel rested ........................................... 1 2 3 4
9. I feel anxious ........................................ 1 2 3 4
10. I feel comfortable................................... 1 2 3 4
11. I feel self-confident................................ 1 2 3 4
12. I feel nervous ...................................... 1 2 3 4
13. I am jittery .......................................... 1 2 3 4
14. I feel "high strung".................................. 1 2 3 4
15. I am relaxed ........................................ 1 2 3 4
16. I feel content ....................................... 1 2 3 4
17. I am worried ....................................... 1 2 3 4
18. I feel over-excited and "rattled" .................. 1 2 3 4
19. I feel joyful ....................................... 1 2 3 4
20. I feel pleasant ..................................... 1 2 3 4

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APPENDIX III

CONSENT FORM

I gave my consent to participate in the research study being conducted by Shu-Lian Sheu.

I have been told that the research is to study the effect of an exercise/teaching program on the level of anxiety, and that the information gained may be beneficial in formulating a teaching program and will add to the knowledge base of nursing.

I may request a copy of the research findings when they are completed.

I understand that I will be under no risk or physical discomfort. I have been assured that my privacy will be maintained and all information about me will be dealt with confidentially.

I also understand that I may withdraw from participation in the study at any time without experiencing reprisal of any kind.

Signed_____________________
Date_____________________

I would like ____ , would not like ____ , to receive a copy of the research findings when it is complete.

Mailing address:__________________________________________

_________________________