APPENDIX - A

From
Ms.A.Porkodi
Reader
College of nursing
Sri Ramachandra University
Porur, Chennai-600 116

To

Respected Madam / Sir

Sub: Requisition for expert opinion and suggestions for content Validity of the tool regarding.

I am a faculty working in Sri Ramachandra College of nursing and currently pursuing my Ph.D. in Nursing under Sri Ramachandra University as a part time course.

I have selected a topic on “A study to assess the effectiveness of Nurse-Led Cardiac Rehabilitation on Adherence and Quality of life among the patients with Heart Failure admitted in cardiology ward at Sri Ramachandra Medical Centre, Porur, Chennai”.

I request you to kindly go through the content of the enclosed tool in terms of its relevance and accuracy. I have enclosed the copies of the tool to give your valuable suggestions. Your expert opinion and kind co operation will be highly appreciated and gracefully acknowledged.

Thanking You,

Yours Faithfully,

Enclosure
1. Blue print of the tool
2. Content Validity certificate

(A.Porkodi)
CONTENT VALIDITY CERTIFICATE

This is to certify that the tool to assess the effectiveness of nurse-led cardiac rehabilitation on adherence and quality of life among patients with heart failure admitted in cardiology wards at Sri Ramachandra Medical Centre which has been prepared by Mrs. A. Porkodi, currently pursuing her part time Ph.D. Program at Sri Ramachandra University are found to be valid to the best of my knowledge.

Date:

Signature with seal:
APPENDIX - B
LIST OF EXPERTS

Prof.Dr.M.Jayarajah MD., DM
Department of Cardiology,
Sooriya Hospital
Chennai-600 026

Prof.P.V.Ramachandran M.Sc(N)
Chairman, Nursing Education
Faculty of Nursing
Porur, Chennai-600116

Prof.Dr. Rajeswari Vaidyanathan M.Sc(N), Ph.D.
Principal
Faculty of Nursing
Porur, Chennai-600116

Dr. M. Ramesh, MD(GM), DNB(GM)
Professor
Department of Cardiology,
Sri Ramachandra University
Porur, Chennai-600 116

Prof.Dr.S.Revathi, M.Sc(N), Ph.D
Principal,
College of nursing,
GIPMER, puducherry

Dr.A.J.Hemamalini, M.Sc., M.Ed., Ph.D
Associate Professor
Department of Clinical Nutrition
Sri Ramachandra University,
Porur, Chennai-600 116
APPENDIX – C

LICENSE AGREEMENT (OGSR)
Office of Grants and Scholarly Research

License Number: PF1-040268-35351
Effective Date: April 15, 2008
Licensee Name: Pankodi Anand
Licensee Address: 3/11, 1 main road, Sathya Nagar, Ramapuram, Chennai, Tamilnadu 600089, INDIA
Royalty Fee: None, because this license is granted in support of the Permitted Use below
Administrative Fee: $0.00
Term: Beginning on April 15, 2008 and ending on April 15, 2009
Permitted Use: Non-commercial academic research - unfunded - Effectiveness of nurse-led structured teaching program on cardiac rehabilitation adherence and quality of life among heart failure patients

Licensed Surveys: As indicated in Appendix B attached
Manuals: Licensee must purchase (or have purchased) from QM a copy of the manuals indicated in Appendix B attached

Licensed Material: The Licensed Surveys and the Manuals.

Subject to Licensee's acceptance of and agreement to the terms of this License Agreement (OGSR) (the "Agreement"), including the QualityMetric License (OGSR) Terms and Conditions attached hereto as Appendix A and incorporated herein, and Licensee's payment of the Administrative Fee, QualityMetric Incorporated ("QM"), 640 George Washington Highway, Lincoln, RI 02865, grants to Licensee, and Licensee accepts, a royalty-free, non-exclusive, non-transferable, non-assignable worldwide license to use, solely for the Permitted Use and during the Term, the Licensed Surveys in the languages indicated above and the accompanying Manuals, and to administer the Licensed Surveys in physical and/or electronic form (and to make up to such number of exact reproductions of the Licensed Surveys to support such administrations) in any combination of the specific Licensed Surveys and authorized languages. Capitalized terms used in this Agreement and not otherwise defined herein shall have the meanings assigned to them in Appendix A.

A third party service provider may administer the Licensed Survey(s) on behalf of the Licensee subject to compliance with Section 2 below.

Licensee hereby accepts and agrees to the terms of this Agreement, as set out above and in Appendix A and B.

Pankodi Anand
3/11, 1 main road, Sathya Nagar, Ramapuram, Chennai,
Tamilnadu 600089, INDIA

Signature: [Signature]
Name: Pankodi Anand
Title: Effectiveness of Nurse-led Cardiac Rehabilitation on Adherence
Date: 19-5-2009

For additional information about QM's OGSR, go to http://www.qualitymetric.com/advancing/
APPENDIX – D

SRI RAMACHANDRA UNIVERSITY
(Established under Section 3 of the UGC Act, 1956)

Porur, Chennai - 600 116.
Phone : 2476 8027, 31-33
Fax : 091-44-2476 5995
www.srmc.edu

INSTITUTIONAL ETHICS COMMITTEE (NI)
(Other than Clinical Evaluation of Drugs / Procedures / Devices / Diagnostics / Vaccine / Herbal remedies)

To
Mrs. A. Porkodi,
Reader,
S.R. College of Nursing
SRU.

06.12.07

Dear Mrs. Porkodi,

REF: IEC(NI)/07/NOV/01/03
A study to assess the effectiveness of nurse led cardiac rehabilitation on adherence and quality of life among patients with heart failure at SRH.

I thank you for submitting your Ph.D. proposal to our Institutional Ethics Committee and it was discussed in the meeting held on 23.11.2007. The Institutional Ethics Committee approves the project and has no objection for the study being carried out at SRU. You are advised to be familiar with ICMR guidelines on Biomedical Research in human beings and also to adhere to the Principles of good clinical practice. You are required to submit the final report on the completion of study to the Institutional Ethics Committee. We request you to incorporate the following suggestions in your study protocol.

- To submit the permission letter from Dept. of Cardiology
- To calculate the sample size
- Pilot study to be conducted
- To obtain expert opinion from Cardiologists and Nutritionists for the interventions planned

Yours Sincerely,

(Dr. Padmavathi R.)
Member Secretary.
Note: Please quote IEC Reference number in all future communications.
APPENDIX - E

INFORMED CONSENT

Title of the project:

Nurse-led cardiac rehabilitation on adherence and quality of life among the patients with heart failure.

Description of the study:

The purpose of the study is to find out the effectiveness of cardiac rehabilitation among patients with heart failure. Participation in this study is voluntary. The duration of this study is for 3 months. A total of 200 patients are participating in this study. During the stay in hospital the pre test will be collected then the structured teaching on cardiac rehabilitation will be provided on one to one basis with the help of lap-top only to the study group. Then you will be asked to walk for 6 minute in a track in the ward. The book-let on “Healthy way to Healthy Heart” will be provided only to study group. The post test will be collected when you come for follow-up after one month and after 3 months of discharge. No additional investigations are required for this study. The routine investigations result will be obtained from the case sheet. The routine treatment will be provided both for the study and control group.

Possible Risks to the participant:

While walking in a track for 6 minute you may feel dyspnoea and tired. The emergency medical equipments are readily available in the ward as well as duty doctors are also available in the ward round the clock for medical treatment.
Possible Benefits to the Participant:

By participating in this cardiac rehabilitation the participants can improve the quality of life, exercise tolerance and can have reduction in cardiac symptoms thereby community also benefits by reduction in mortality of patients with heart failure.

Cost and payments to the participant:

There is no cost for participation in this study. Participation is completely voluntary and no payment will be provided.

Confidentiality:

Information obtained in this study is strictly confidential. Your name will not be used in reporting information in publications or conference presentations.

Participants’ right to withdraw from the study:

You have the right to refuse to participate in this study, the right to withdraw from the study and the right to have your data destroyed at any point during or after the study, without penalty.

Voluntary consent by the participant:

PARTICIPATION IN THIS STUDY IS COMPLETELY VOLUNTARY AND YOUR CONSENT IS REQUIRED BEFORE YOU CAN PARTICIPATE IN THIS STUDY.

I have read this consent form (or it has been read to me) and I fully understand the contents of this document and voluntarily consent to participate in this study. All of my questions concerning this study have been answered. If I have
any questions in the future about this study they will be answered by the investigators listed below, I understand that this consent ends at the conclusion of this study.

**Contact Address with phone number:**

Principal Investigator:-
Mrs. A.Porkodi, Reader,
College of Nursing,
Sri Ramachandra University
Porur, Chennai-600116.
Ph. No. : 94452 61431

By signing this form, I agree to participate in this study. A copy of this form has been given to me.

<table>
<thead>
<tr>
<th>Name</th>
<th>:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant’s signature</td>
<td>:</td>
</tr>
<tr>
<td>Thump impression</td>
<td>:</td>
</tr>
<tr>
<td>Witness name</td>
<td>:</td>
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<tr>
<td>Date</td>
<td>:</td>
</tr>
<tr>
<td>Witness signature</td>
<td>:</td>
</tr>
</tbody>
</table>
CERTIFICATION OF INFORMED CONSENT

I certify that I have explained the nature and purpose of this study to the above-named individual, and I have discussed the potential benefits of this study participation. The questions the individual had about this study have been answered and we will always be available to address future questions.

Signature of person obtaining consent

Date:

Name :

Signature of PI:
APPENDIX – F
QUESTIONNAIRE

PART I - Demographic Variables

1. Age in years
   a. 31-40
   b. 41-50
   c. 51-60
   d. 61-70
   e. 71-80

2. Gender
   a. Male
   b. Female

3. Educational status
   a. Non literate
   b. Primary
   c. Middle School
   d. High school
   e. Higher Secondary school
   f. Collegiate

4. Occupation
   a. Skilled
   b. Home maker
   c. Unskilled
   d. Professionals
   e. Business

5. Marital Status
   a. Married
   b. Unmarried
   c. Separated
   d. Widow

6. Religion
   a. Hindu
   b. Christian
   c. Muslim
   d. Others

7. Residence
   a. Urban
   b. Rural
   c. Semi Urban

8. Total family income (Rs. Per month)
   a. <4000
   b. 4001 - 6000
   c. 6001 – 8000
   d. more than 8000

9. Type of family
   a. Joint family
   b. Nuclear family

10. Tobacco use
    a. Yes
    b. No
PART II - Clinical Variables

1. Diagnosis
   a. Dilated cardiomyopathy
   b. Hypertensive heart disease
   c. Coronary artery disease

2. Duration of illness
   a. less than 6 months
   b. 6 months – 1 year
   c. 1-2 years
   d. more than 2 years

3. NYHA
   a. II
   b. III

4. Ejection Fraction
   a. <45
   b. 46-50
   c. 51-55
   d. >55

5. Co-morbid
   a. Yes
   b. No

Part III – Biophysiological parameters

1. Body Mass Index
2. Systolic blood pressure
3. Diastolic blood pressure
4. LDL
5. HDL
6. Triglycerides
7. Hemogoblin
8. Random blood sugar
9. Sr.Sodium
10. Sr. Potassium
Part IV - Dutch knowledge on heart failure scale

This list contains a number of questions and statements about heart failure. Please tick off what you think is the right answer (only tick 1 box per question).

1. How often should patients with severe heart failure weigh themselves?
   - every week
   - now and then
   - every day

2. Why is it important that patients with heart failure should weigh themselves regularly?
   - because many patients with heart failure have a poor appetite
   - to check whether the body is retaining fluid
   - to assess the right dose of medicines

3. How much fluid are you allowed to take at home each day?
   - 1.5 to 2.5 liters at the most
   - as little fluid as possible
   - as much fluid as possible

4. Which of these statements is true?
   - when I cough a lot, it is better not to take my heart failure medication
   - when I am feeling better, I can stop taking my medication for heart failure.
   - it is important that I take my heart failure medication regularly

5. What is the best thing to do in case of increased shortness of breath or swollen legs?
   - call the doctor or the nurse
   - wait until the next check-up
   - take less medication

6. What can cause a rapid worsening of heart failure symptoms?
   - a high-fat diet
   - a cold or the flu
   - lack of exercise

7. What does heart failure mean?
   - that the heart is unable to pump enough blood around the body
   - that someone is not getting enough exercise and is in poor condition
   - that there is a blood clot in the blood vessels of the heart
8. Why can the legs swell up when you have heart failure?
   - because the valves in the blood vessels in the legs do not function properly
   - because the muscles in the legs are not getting enough oxygen
   - because of accumulation of fluid in the legs

9. What is the function of the heart?
   - to absorb nutrients from the blood
   - to pump blood around the body
   - to provide the blood with oxygen

10. Why should someone with heart failure follow a low salt diet?
    - salt promotes fluid retention
    - salt causes constriction of the blood vessels
    - salt increases the heart rate

11. What are the main causes of heart failure?
    - a myocardial infarction and high blood pressure
    - lung problems and allergy
    - obesity and diabetes

12. Which statement about exercise for people with heart failure is true?
    - it is important to exercise as little as possible at home in order to relieve the heart
    - it is important to exercise at home and to rest regularly in between
    - it is important to exercise as much as possible at home

13. Why is water pills prescribed to someone with heart failure?
    - to lower the blood pressure
    - to prevent fluid retention in the body
    - because then they can drink more

14. Which statement about weight increase and heart failure is true?
    - an increase of over 2 kilograms in 2 or 3 days should be reported to the doctor at the next Check-up
    - in case of an increase of over 2 kilograms in 2 or 3 days, you should contact your doctor or nurse
    - in case of an increase of over 2 kilograms in 2 or 3 days, you should eat less

15. What is the best thing to do when you are thirsty?
    - suck an ice cube
    - suck a lozenge
    - drink a lot
PART V - Modified heart failure compliance scale

Appointments

1. How important do you think it is to keep your appointments with your doctor?
   - Not at all
   - Somewhat important
   - Important
   - Very important
   - Highly important

2. What type of transportation do you use to get to your appointments?
   - Personal transportation
   - Bus
   - Taxi
   - Van service

3. Do you go alone or with someone else?
   - Alone
   - With someone else

4. How much difficulty have you had keeping your appointments with your doctor?
   - No difficulty
   - A little difficulty
   - Moderate difficulty
   - A lot of difficulty

5. What kind of difficulty?
   - Not applicable
   - Transportation
   - No time
   - No money
   - Forgot
   - didn’t know I had one
   - Other ........................

6. In the last 3 months, would you estimate you have kept your doctor’s appointments?
   - None of the time
   - Very seldom
   - About half of the time
   - Most of the time
   - All of the time
**Medication**

7. How important do you think it is to take your medications regularly?
   - [ ] Not at all
   - [ ] Somewhat important
   - [ ] Important
   - [ ] Very important
   - [ ] Highly important

8. Have you had any difficulties taking your medications?
   - [ ] Yes
   - [ ] No

9. How much difficulty have you had with taking your medication?
   - [ ] No difficulty
   - [ ] A little difficulty
   - [ ] Moderate difficulty
   - [ ] A lot of difficulty

10. What kind of difficulty?
    - [ ] Not applicable
    - [ ] Remembering
    - [ ] Cost
    - [ ] Inconvenience
    - [ ] Side effects
    - [ ] Others ......................

11. In the past week, would you estimate you have taken your medications?
    - [ ] None of the time
    - [ ] Very seldom
    - [ ] About half of the time
    - [ ] Most of the time
    - [ ] All of the time

12. Are there any medications that you sometimes skip?
    - [ ] Not applicable
    - [ ] Diuretics
    - [ ] Other medication .................

**Diet**

13. How important do you think it is to weigh yourself daily?
    - [ ] Not at all
    - [ ] Somewhat important
    - [ ] Important
    - [ ] Very important
    - [ ] Highly important
14. Have you had any difficulties weighing yourself daily?
   □ Yes
   □ No

15. What kind of difficulty?
   □ Not applicable
   □ Lack of self motivation
   □ I have no scale
   □ I did not know I had to weigh daily
   □ I forget to weigh myself daily
   □ Practical problems
   □ Others ………………….

16. In the last month, would you estimate how often you weighed yourself?
   □ Daily
   □ 3 times a week
   □ Once a week
   □ Less than once a week

17. How important do you think it is to limit your salt intake?
   □ Not at all
   □ Somewhat important
   □ Important
   □ Very important
   □ Highly important

18. Have you had any difficulties with following your salt restricted diet?
   □ Yes
   □ No

19. How much difficulties have you had keeping your salt restricted diet?
   □ No difficulty
   □ A little difficulty
   □ Moderate difficulty
   □ A lot of difficulty

20. What kind of difficulty?
   □ Not applicable
   □ Lack of self motivation
   □ Unable to control
   □ Environmental obstacles (we translated that in Dutch in ‘practical problems’)
   □ Lack of knowledge
   □ Others………
21. In the past week would you estimate you have followed your salt restricted diet?
   - None of the time
   - Very seldom
   - About half of the time
   - Most of the time
   - All of the time

**Fluid Intake**

22. How important do you think it is to limit your fluid intake?
   - Not at all
   - Somewhat important
   - Important
   - Very important
   - Highly important

23. Have you had any difficulties with following your fluid restriction?
   - Yes
   - No

24. What kind of difficulty?
   - Not applicable
   - Lack of self motivation
   - Unable to control
   - Thirst
   - I did not knew I had to restrict my fluid intake
   - Others …………………

25. In the past week would you estimate you have followed your fluid restriction?
   - None of the time
   - Very seldom
   - About half of the time
   - Most of the time
   - All of the time

**Exercise**

26. How important do you think it is to exercise regularly?
   - Not at all
   - Somewhat important
   - Important
   - Very important
   - Highly important
27. Have you had any difficulties with exercising?
   - Yes
   - No

28. How much difficulty have you had with exercising as recommended?
   - No difficulty
   - A little difficulty
   - Moderate difficulty
   - A lot of difficulty

29. What kind of difficulty?
   - Not applicable
   - Lack of motivation
   - No time
   - Inconvenience
   - Lack of energy
   - Physical symptoms
   - Others …………………

30. In the past week would you estimate you have exercised as recommended?
   - None of the time
   - Very seldom
   - About half of the time
   - Most of the time
   - All of the time

**Smoking cessation**

31. How important do you think it is to stop smoking?
   - Not at all
   - somewhat important
   - Important
   - Very important
   - Highly important

32. Have you had any difficulties with smoking cessation?
   - Yes
   - No

33. How much difficulty have you had with smoking cessation?
   - No difficulty
   - A little difficulty
   - Moderate difficulty
   - A lot of difficulty
34. What kind of difficulty?
   - Not applicable
   - Lack of self motivation
   - Weight gain
   - Inconvenience
   - Side effects
   - Others ........................

35. In the past week would you estimate how often you smoked yourself?
   - Daily
   - 3 times a week
   - Once a week
   - Less than once a week

Lifestyle changes

36. How important do you think to follow lifestyle changes?
   - Not at all
   - Somewhat important
   - Important
   - Very important
   - Highly important

37. Have you had any difficulties with lifestyle changes?
   - Yes
   - No

38. How much difficulty have you had with lifestyle changes?
   - No difficulty
   - A little difficulty
   - Moderate difficulty
   - A lot of difficulty

39. What kind of difficulty?
   - Not applicable
   - Lack of self motivation
   - Unable to control
   - Inconvenience
   - Lack of knowledge
   - Others ........................

40. In the last 3 months, would you estimate you have kept lifestyle changes?
   - None of the time
   - Very seldom
   - About half of the time
   - Most of the time
   - All of the time
PART VI - Quality of life questionnaire

A. Short form 36 v2 questionnaires

YOUR HEALTH AND WELL-BEING

This questionnaire asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. Thank you for completing this survey!

For each of the following questions, please mark an \[ \square \] in the one box that best describes your answer.

1. In general, would you say your health is:

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

2. Compared to one year ago, how would you rate your health in general now?

<table>
<thead>
<tr>
<th></th>
<th>Much better now than one year ago</th>
<th>Somewhat better now than one year ago</th>
<th>About the same as one year ago</th>
<th>Somewhat worse now than one year ago</th>
<th>Much worse now than one year ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
3. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

<table>
<thead>
<tr>
<th></th>
<th><strong>Yes, limited a lot</strong></th>
<th><strong>Yes, limited a little</strong></th>
<th><strong>No, not limited at all</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>b</td>
<td>Moderate activities, such as moving a table, sweeping the floor, gardening, or bicycling</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>c</td>
<td>Lifting or carrying groceries</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>d</td>
<td>Climbing several flights of stairs</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>e</td>
<td>Climbing one flight of stairs</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>f</td>
<td>Bending, kneeling, or stooping</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>g</td>
<td>Walking more than a kilometre</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>h</td>
<td>Walking several hundred metres</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>i</td>
<td>Walking one hundred metres</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
<tr>
<td>j</td>
<td>Bathing or dressing yourself</td>
<td>□ 1</td>
<td>□ 2</td>
</tr>
</tbody>
</table>
4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

<table>
<thead>
<tr>
<th></th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Cut down on the amount of time you spent on work or other activities</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>b Accomplished less than you would like</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>c Were limited in the kind of work or other activities</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>d Had difficulty performing the work or other activities (for example, it took extra effort)</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
</tbody>
</table>
5. **During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?**

<table>
<thead>
<tr>
<th></th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Cut down on the amount of time you spent on work or other activities</td>
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<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>b Accomplished less than you would like</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>c Did work or other activities less carefully than usual</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
</tbody>
</table>

6. **During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?**

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
</tbody>
</table>

7. **How much bodily pain have you had during the past 4 weeks?**

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Very mild</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very severe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
<td>□ 6</td>
</tr>
</tbody>
</table>
8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
</tbody>
</table>

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks...

<table>
<thead>
<tr>
<th></th>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Did you feel full of life?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>b Have you been very nervous?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>c Have you felt so sad and low in spirit that nothing could cheer you up?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>d Have you felt calm and peaceful?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>e Did you have a lot of energy?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>f Have you felt downhearted and depressed?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>g Did you feel worn out?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>h Have you been happy?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
<tr>
<td>i Did you feel tired?</td>
<td>□ 1</td>
<td>□ 2</td>
<td>□ 3</td>
<td>□ 4</td>
<td>□ 5</td>
</tr>
</tbody>
</table>
10. **During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?**

<table>
<thead>
<tr>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

11. **How TRUE or FALSE is each of the following statements for you?**

<table>
<thead>
<tr>
<th></th>
<th>Definitely true</th>
<th>Mostly true</th>
<th>Don’t know</th>
<th>Mostly false</th>
<th>Definitely false</th>
</tr>
</thead>
<tbody>
<tr>
<td>a I seem to get sick a little easier than other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>b I am as healthy as anybody I know</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>c I expect my health to get worse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>d My health is excellent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Part VII - Minnesota living with heart failure questionnaire

<table>
<thead>
<tr>
<th>Did your heart failure prevent you from living as you wanted during the last month by:</th>
<th>No</th>
<th>Very little</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>Causing swelling in your ankles, legs etc.?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2P</td>
<td>Making you sit or lie down to rest during the day?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3P</td>
<td>Making your walking about or climbing stairs difficult?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>4P</td>
<td>Making your Working Around the house or yard difficult?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5P</td>
<td>Making your going places away from home difficult?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>6P</td>
<td>Making your sleeping well at night difficult</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7P</td>
<td>Making your sleeping to or doing things with your friends or family difficult?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Making your working to earn a living difficult?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Making your recreational pastimes, sports or hobbies difficult</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Making you sexual activities more difficult?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Making you eat less of the foods you like?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12P</td>
<td>Making you short of breath?</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13P</td>
<td>Making you tired, fatigued, or low on energy?</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Did your heart failure prevent you from living as you wanted during the last month by:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>No</th>
<th>Very little</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Making you stay in a hospital?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>Costing you money for medical care?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>Giving you side effects from medications?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17E</td>
<td>Making you feel you are a burden to your family or friends?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18E</td>
<td>Making you feel a loss of self-control in your life?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19E</td>
<td>Making you worry?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20E</td>
<td>Making it difficult for you to concentrate or remember things?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21E</td>
<td>Making you feel depressed?</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
APPENDIX – G

LESSON PLAN ON CARDIAC REHABILITATION

Guide: Dr. T. V. RAMAKRISHNAN
Prof. of Anesthesiology &
Head of the Clinical Services
Dept. of Emergency Medicine and Trauma care
Sri Ramachandra University
Porur, Chennai – 600 116

Co-Guide: Dr. LALITHA
Prof. and Head
Department of Nursing
NIMHANS
Bangalore - 560 029

By: Ms. A. PORKODI
Reader
College of Nursing
Sri Ramachandra University,
Porur, Chennai - 600116
# LESSON PLAN

<table>
<thead>
<tr>
<th>Topic</th>
<th>Cardiac Rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of Teaching</td>
<td>Lecture cum Discussion</td>
</tr>
<tr>
<td>A.V Aids</td>
<td>Powerpoint slides, Laptop</td>
</tr>
<tr>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>1 hour</td>
</tr>
<tr>
<td>Venue</td>
<td>Cardiology ward</td>
</tr>
<tr>
<td>Name of the investigator</td>
<td>Mrs. A. Porkodi</td>
</tr>
</tbody>
</table>
Overall objective:-

The patients will be able to gain knowledge on cardiac rehabilitation and develop skill in complying with components of cardiac rehabilitation with desirable attitude.

Specific objectives:-

At the end of the session the patient is able to,

1. understand the disease condition.
2. list out the complications of heart failure.
3. describe the medical management of heart failure.
4. explain the dietary management
5. explicate the fluid management 
6. enumerate the weight management
7. rationalize the practice of exercise
8. practice smoking cessation
9. illustrate the home care instruction
10. adhere to life style modification
I. Introduction:-
Non communicable diseases are the leading cause of death in India. Heart diseases are more prevalent among people with more than thirty five years of age. One of the common disorder is heart failure. Hence awareness about the heart failure, management and lifestyle modifications are necessary to avoid untoward complications. Understanding about the cardiac rehabilitation and adherence to the same are essential to maintain the quality of life.

II. General information on Disease condition:-
A. Anatomy and physiology of heart:-
The heart is a hollow, muscular organ located in the center of the thorax, where it occupies the space between the lungs (mediastinum) and rests on the diaphragm. The heart pumps blood to the tissues, supplying them with oxygen and other nutrients.

A normal resting adult heart beats approximately 60 to 80 times per minute. Each ventricle ejects approximately 70 ml of blood per beat and has an output of approximately 5 lt per minute.

<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
</tr>
</thead>
</table>
| Patient is able to understand about the disease condition | 1mt  | I. Introduction:-
Non communicable diseases are the leading cause of death in India. Heart diseases are more prevalent among people with more than thirty five years of age. One of the common disorder is heart failure. Hence awareness about the heart failure, management and lifestyle modifications are necessary to avoid untoward complications. Understanding about the cardiac rehabilitation and adherence to the same are essential to maintain the quality of life. | Introducing the concept. |  |  |
| 3mts |  | II. General information on Disease condition:-
A. Anatomy and physiology of heart:-
The heart is a hollow, muscular organ located in the center of the thorax, where it occupies the space between the lungs (mediastinum) and rests on the diaphragm. The heart pumps blood to the tissues, supplying them with oxygen and other nutrients.
A normal resting adult heart beats approximately 60 to 80 times per minute. Each ventricle ejects approximately 70 ml of blood per beat and has an output of approximately 5 lt per minute. | Explaining with power point slides | Listening | Answering |
<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
</tr>
</thead>
</table>
| 2 mts               |      | 1. Anatomy of the heart:-  
The heart is composed of 3 layers. The inner layer, or endocardium, consists of endothelial tissue and lines the inside of the heart and valves. The middle layer, or myocardium, is made up of muscle fibers and is responsible for the pumping action. The exterior layer of the heart is called the epicardium  

2. Heart chambers:-  
The four chambers of the heart constitute the right and left sided pumping systems. The right side of the heart, made up of the right atrium and right ventricle, distributes venous blood (deoxygenated blood) to the lungs via the pulmonary artery (pulmonary circulation) for oxygenation.  
The left side of the heart, composed of the left atrium and left ventricle, distributes oxygenated blood to the remainder of the body via the aorta (systemic circulation). | Explaining, discussing with power point slides | Listening, active participation | What are the functions of the heart chambers? |
<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Coronary arteries:--</td>
<td>1mt</td>
<td>The left and right coronary arteries and their branches supply arterial blood to the heart. These arteries originate from the aorta just above the aortic valve leaflets. Patients, particularly those with coronary artery disease, can develop myocardial ischemia (inadequate oxygen supply) when the heart rate accelerates.</td>
<td>Explaining with power point slides</td>
<td>Listening, clarification of doubts</td>
<td>Name the artery supplies blood to the heart</td>
</tr>
<tr>
<td><strong>B. Heart failure:--</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Explain the meaning of heart failure</td>
</tr>
<tr>
<td>1. Meaning:--</td>
<td></td>
<td>Heart failure is the inability of the heart to pump sufficient blood to meet the needs of the tissues for oxygen and nutrients.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Etiology:--</td>
<td></td>
<td>a. Risk factors for heart failure:--</td>
<td></td>
<td></td>
<td>List out the important risk factors for heart failure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ High Blood pressure ≥ 140/90 mm Hg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Heart attack</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Chest pain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Diabetes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Left ventricular hypertrophy.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Valvular heart disease.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Obesity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Clinical Manifestation

Acute heart failure is a clinical syndrome comprising multiple symptoms and signs related to the pathophysiology.

**a. General:**
- Pale, cyanotic skin (with decreased perfusion to extremities) dependent edema (accumulation of fluid)
- Decreased activity tolerance

**b. Cardiovascular:**
- Cardiac enlargement
- Murmurs (with valvular dysfunction)
- Increased heart rate

**c. Cerebrovascular:**
- Light headedness
- Dizziness
- Confusion

<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2mts</td>
<td>3. Clinical manifestation:-</td>
<td>Explaining and discussing with PowerPoint slides</td>
<td></td>
<td>Quote the clinical manifestation of heart failure</td>
</tr>
<tr>
<td></td>
<td>1mt</td>
<td>a. General:-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pale, cyanotic skin (with decreased perfusion to extremities) dependent edema (accumulation of fluid) Decreased activity tolerance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Cardiovascular:-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cardiac enlargement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Murmurs (with valvular dysfunction)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased heart rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Cerebrovascular:-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Light headedness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dizziness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusion</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Specific Objectives

<table>
<thead>
<tr>
<th>Time</th>
<th>Content</th>
</tr>
</thead>
</table>
| 1mt  | **d. Gastrointestinal:**

- Nausea and anorexia
- Enlarged liver

|       | **f. Respiratory:**

- Dyspnea on exertion
- Orthopnea
- Paroxysmal nocturnal dyspnea (PND)
- Bilateral crackles that do not clear with cough

|       | **4. Diagnostic evaluation:**

#### a. Common Laboratory test:

- Serum electrolytes
- Blood urea Nitrogen
- Serum creatinine
- Hematological Studies (complete blood count)
- Natriuretic peptides (B-type natriuretic peptide)
- Bio markers of myocardial injury (Troponins or CK-MB)
- Routine urine analysis
- Lipid profile
- Random blood sugar

#### Teaching Activity

Explaining with power point slides

#### Learning Activity

Listening, Answering

#### Evaluation

Mention the diagnostic test for heart failure
<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
</tr>
</thead>
</table>
| List out the complications of heart failure | 3mts | b. Common Diagnostic Test:-
- Chest X-ray
- ECG
- Echocardiogram
- Angiogram
- Exercise testing | Explaining with power point slides | Listening Answering | State the complication of heart failure |
|                     |      | 5. Complications:-
- Profuse and repeated diuresis can lead to hypokalemia.
- Digitalis toxicity.
- Low level of potassium can add to the risk for dysrhythmias
- Prolonged diuretic therapy may also produce hyponateremia and hyperuricemia.
- Cardiogenic Shock
- Thrombo Embolism
- Pericardial Effusion and cardiac tamponade | | | |
**II. Medication:-**

The overall goals of management of HF are to relieve patient symptoms, improve functional status, quality of life and to extend survival. Medical management is based on the type, severity, and cause of heart failure.

**A. Specific objectives of medical management:-**

1. Eliminate or reduce any etiologic contributory factors, especially those that may be reversible (e.g. Atrial fibrillation)
2. Reduce the workload of the heart
3. Optimize all therapeutic regimens.

**B. What your medicines do:-**

- Help your heart pump stronger
- Get rid of extra fluid in your body
- Relax your blood vessels so your heart works better

The list below includes some of the more common medications used to treat heart failure.
<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 mts</td>
<td></td>
<td>1. Angiotensin-converting enzyme inhibitors (ACE inhibitors)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Name of the drug</strong></td>
<td><strong>Action</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T. Aceten</td>
<td>Relaxes blood</td>
<td>Explaining</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T. Envas</td>
<td>vessels and makes it easier for the heart to pump</td>
<td>with power point slides</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T. Cardace</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T. L-pril</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T. Coverysl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific instruction:-</td>
<td></td>
<td>Check with your doctor if you have severe or continuing vomiting or diarrhea.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Beta Blockers:</td>
<td></td>
<td><strong>Name of the drug</strong></td>
<td><strong>Action</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>Tab. Cardivas</td>
<td>Slows the heart beat and takes the work off the heart.</td>
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<td>Tab. Seloken XL</td>
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<td>Tab. Atenolol</td>
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<td>Tab. Propranolol</td>
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</tbody>
</table>
Specific objectives | Time | Content | Teaching activity | Learning activity | Evaluation
--- | --- | --- | --- | --- | ---
2 mts |  | Specific instruction:-
- Avoid activities such as heavy cleaning, grass cutting or lifting.
- Check your pulse before and after taking medicine
- Abrupt discontinuation can be harmful

3. Diuretics:-

<table>
<thead>
<tr>
<th>Name of the drug</th>
<th>Action</th>
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</thead>
<tbody>
<tr>
<td>Tab. Aquazide</td>
<td>They help the heart by lessening the amount of fluid it must pump around.</td>
</tr>
<tr>
<td>Tab. Chlorthiazide</td>
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<td>Tab. Lasix</td>
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<td>Tab. Aldactone</td>
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<td>Tab. Zytanix</td>
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<td>Tab. Torget</td>
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<td>Tab. Natrilix SR</td>
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</table>

Specific instruction:-
- Eat foods high in potassium like bananas, potatoes, soybeans. Avoid taking diuretics after 4 p.m., to prevent or reduce the need to get up at night to urinate.
- Monitor your weight daily.
<table>
<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Digitalis:-</td>
<td>1 mt</td>
<td></td>
<td>Explaining with power point slides</td>
<td>Listening Answering</td>
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<tr>
<td><strong>Name of the drug</strong></td>
<td><strong>Action</strong></td>
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<tr>
<td>Tab. Digoxin (lanoxin)</td>
<td>Increases the strength of the pumping action of heart.</td>
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<td>Specific instruction:-</td>
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<tr>
<td>✓ Watch for signs of overdose.</td>
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<td>✓ Check the pulse rate before taking drug, if it is &lt;60 per mt or &gt; 100 per mt seek medical advice.</td>
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<td>5. Oral Nitrates:-</td>
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<td>Nitrates are vasodilators and their primary effect is to decrease preload. Nitrates are used in HF to help alleviate the symptoms of orthopnea and dyspnea on exertion.</td>
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<tr>
<td><strong>Name of the drug</strong></td>
<td><strong>Action</strong></td>
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<tr>
<td>Tab.Isordil</td>
<td>Improve the supply of blood and oxygen to the heart</td>
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<tr>
<td>Specific objectives</td>
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<td></td>
<td>1 mt</td>
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<tr>
<td><strong>Specific instruction:</strong></td>
<td></td>
<td>Do not stop using this medication suddenly</td>
<td>Explaining with power point slides</td>
<td>Listening</td>
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<td>Avoid exposure to sunlight; store in cool and dark place.</td>
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<td>Answering</td>
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<tr>
<td><strong>C. Reducing side effects:</strong></td>
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<td>1. Learn the names, dose, frequency, the purpose, and main side effects for each of your medications.</td>
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<td>2. Do not stop taking them unless prescribed by your doctor.</td>
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<td>3. Do not alter the dosage without checking with your doctor.</td>
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<td>4. Take your medications at the same time each day.</td>
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<td>5. Do not take outdated/expired medications.</td>
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<td>6. Check with your physician when buying any over-the-counter medications (such as pain medication, antacids, herbals and laxatives).</td>
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<tr>
<td>Specific objectives</td>
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<td></td>
<td>2 mts</td>
<td><strong>D. Points to remember:-</strong></td>
<td>Explaining with power point slides</td>
<td>Listening Answering</td>
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<tr>
<td></td>
<td></td>
<td>1. Plan ahead to be sure you have enough medications on hand, especially when going on a trip or over holidays.</td>
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<td>2. Be consistent in taking your medications at the same time each day. It will help you remember to take them, and to get the best effect from them.</td>
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<td>3. Try to link taking your medicine with a particular activity such as brushing your teeth</td>
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<td>4. Check to see if your medications need to be taken with food.</td>
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<td>5. Try taking your diuretic medication in the morning to prevent frequent urination at night.</td>
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<td>6. Keep a medicine chart of all of your medications and times to take dosages.</td>
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<td>7. Maintain a daily weight chart</td>
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<td>8. Keep a daily written record of when you take your medication, and bring it with you to doctor appointments.</td>
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</table>
### III. Diet:-

A diet low in sodium and fluid will help keep your heart working at its best. You already may be on a special diet for health problems such as diabetes, obesity and renal failure. You will need to continue following that diet in addition to limiting your sodium and fluids.

**A. Low sodium diet:-**

A commonly prescribed diet for a patient with mild HF is a 2.5 g sodium diet. All foods high in sodium should be eliminated. For more severe HF, sodium intake is restricted to 500 to 1000 mg per day. On this diet, milk, cheese, bread, cereals, canned soups and some canned vegetables must be severely restricted.

### 1. Limiting Sodium

- Sodium and salt are not the same.
- A teaspoon (5 gm) of table salt contains 2,300 milligrams of sodium. Salt is not 100% sodium; there are 393 mg of sodium in 1 g (1000mg) of salt.
- Most of the sodium in our diets comes from seasonings and ingredients we add to foods.
## Specific objectives

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<tbody>
<tr>
<td>2 mts</td>
<td><strong>2. Tips for limiting sodium</strong></td>
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<td>- Add salt to only one item in each major meal of the day. Eg. breakfast-Idly with salt, sambar and chutney without salt.</td>
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<td>- While eating out choose and eat the items, which are low in salt.</td>
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<td>- Eat plenty of fruits and vegetables as they are low in sodium and at the same time give you satiety.</td>
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<td><strong>The following foods are high in sodium and salt and therefore should be restricted.</strong></td>
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<td>- The use of salt while cooking rice. Papads, pickles, chutney and idly podi. Commercially prepared salad dressings, sauces, ketchup and curry powder.</td>
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<td>- Salted potato chips, nuts, popcorn, biscuits, and crackers. Processed butter and cheese, cornflakes Gravies and rasam.</td>
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<td>- Soda bicarbonate in cooking eg: Green leafy vegetables, pulses etc. Instant mixes and soup cubes.</td>
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<td>- Chinese food as it contains high ajinomoto. eg. Noodles</td>
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<td>- Processed meat products like dried fish, crabs.</td>
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<tr>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
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<tr>
<td></td>
<td>Explaining</td>
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<td>with power point slides</td>
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### B. LOW FAT DIET

1. **Cholesterol in the blood**
   - The cholesterol in your blood comes from two sources; the foods you eat and your liver.
   - Cholesterol and other fats are transported in your blood stream in the form of spherical particles called lipoproteins.
   - The two most commonly known lipoproteins are low-density lipoproteins (LDL) bad cholesterol and high-density lipoproteins (HDL) good cholesterol.

2. **Dietary cholesterol**
   Remember: "cholesterol-free" does not mean "fat-free."
   Dietary cholesterol is a fat-like substance found in all foods of animal origin: egg yolks, meat, poultry, and fish, milk, and milk products.

### c. Fats
   Present in all vegetable oils and non-vegetarian foods. All fats contain about the same number of calories. Fat is the most concentrated source of calories, supplying more than twice as many calories per gram as either carbohydrates or proteins.
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<th>Specific objectives</th>
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<th>Learning activity</th>
<th>Evaluation</th>
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</thead>
</table>
| 3. Eat a variety of nutritious foods from all the food groups | 2 mts | ➢ Unrefined whole grain foods contain fiber that can help lower your blood cholesterol. It is useful in weight control because it creates a feeling of fullness. eg: rice, wheat, oats, brown bread.  
➢ Pulses and legumes regularly in the diet to provide soluble fibers, protein and help to lower your blood cholesterol and gives you satiety. eg: Green gram dhal, Bengal gram dhal and Black gram  
➢ Use Skimmed milk (remove cream from the milk before use for curds, buttermilk of ordinary purposes).  
➢ Eating a variety of fruits and vegetables may help you control your weight and your Blood pressure. eg: boiled vegetables, soups, salads, fresh fruits.  
➢ Limit egg yolks and animal products. Cut back on beverages and foods with added sugars.  
➢ Try eating smaller portions more frequently, and have a rest period after eating  
➢ Steam, boil or bake instead of frying foods. | Explaining with power point slides | Listening Answering |
<table>
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<th>Specific objectives</th>
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<th>Teaching activity</th>
<th>Learning activity</th>
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<tbody>
<tr>
<td>explicate the fluid management</td>
<td>3 mts</td>
<td><strong>IV. FLUID MANAGEMENT</strong>&lt;br&gt;<strong>A. Limiting fluids</strong>&lt;br&gt;➢ Restrict fluid intake to 1.2 liters per day during winters and rainy season and 1.5 liters per day during summers.&lt;br&gt;➢ Fluids include water, tea, coffee, milk, rasam, sambar, curds, buttermilk, juice etc.&lt;br&gt;<strong>B. Keeping on Track</strong>&lt;br&gt;➢ Your fluid allowances _________ per day&lt;br&gt;➢ Coffee and tea can be considered 200-300 ml of your fluid allowance.&lt;br&gt;➢ Try to use your remaining fluid allowance as free water evenly throughout the day.&lt;br&gt;<strong>C. Tips to Overcome Thirst</strong>&lt;br&gt;➢ Rinse your mouth with water. Spit it out- don’t swallow.&lt;br&gt;➢ Put an ice cube in your mouth to melt or eat crushed ice.&lt;br&gt;➢ Add lemon juice to ice water or curd rice.</td>
<td>Explaining with power point slides</td>
<td>Listening Answering</td>
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<td>Specific objectives</td>
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<td>enumerate the weight management</td>
<td>3 mts</td>
<td><strong>V. WEIGHT MANAGEMENT</strong></td>
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<tr>
<td><strong>A. Weighing yourself daily tips</strong></td>
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<td>- Weigh yourself everyday at about the same time and record the value.</td>
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<td>- Use same weighing machine</td>
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<td>- The best time to weigh yourself is in the morning when you first get up and after you go to the bathroom.</td>
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<td>- Compare today’s weight to the past day’s weight</td>
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<td>- Notify your doctor of a sudden weight gain of five or more pounds as this may be due to fluid retention.</td>
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<td><strong>B. Weight loss tips</strong></td>
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<td>- Avoid high calorie foods, like Sweets, Fried snacks, Vadai, Baji and increase portion size.</td>
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<td>- Reduce portion sizes.</td>
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<td>- Avoid fats, oils and sugars.</td>
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<td>- If you are overweight / obese, plan for weight reduction at the rate of half kg per week.</td>
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How often will you check the weight?
### Specific Objectives

3 mts

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<thead>
<tr>
<th>Specific objectives</th>
<th>Time</th>
<th>Content</th>
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</table>
| rationalize the practice of exercise | 3 mts | **VI. EXERCISE**

Exercise is a great way to strengthen the heart and cardiovascular system, since Brisk walking (aerobic exercise) trains the heart to beat more efficiently. In fact, moderate aerobic exercise is an integral part of improving stamina and quality of life.

**A. Exercise will**

- Improve blood flow throughout your body
- Strengthen your muscles
- Increase your energy level
- Help manage your stress level
- Help you to lose weight
- Make you feel better

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<thead>
<tr>
<th>Teaching activity</th>
<th>Learning activity</th>
<th>Evaluation</th>
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<tbody>
<tr>
<td>Explaining with power point slides</td>
<td>Listening Answering</td>
<td>Which is the best recommended exercise?</td>
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<tr>
<td>Specific objectives</td>
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| 1 mt                |      | B. Patient education on walking
   1. Stay as active as possible. Gradually increase your activity. Avoid activity that causes shortness of breath or severe fatigue.
   2. The stronger your skeletal muscle are, the easier it is for your heart.
   3. If you get tired or short of breath, stop and rest and then try again. The goal is 15-20 minutes of continuous activity each day.
   4. There are no speed or distance goals, and walking at whatever pace you can accomplish is a good choice. Homemaking and gardening are good choices as well. Choose an activity that you enjoy.
   5. Shortness of breath is uncomfortable but not dangerous. It is an indication that you are nearing the end of your exercise tolerance for this period, but once your breathing normalizes you can go again. If you stop before you get short of breath out of fear, you will not be able to increase your activity tolerance.
   6. Do not lift weights. | Explaining with power point slides | Listening | Answering |
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</table>
| practice smoking cessation | 3 mts | **VII. SMOKING CESSATION**  
The health benefits start almost immediately, and with in a few years of quitting your risk of smoke and coronary artery disease are similar to non-smokers.  

**A. Time to Quit**  
1. **No matter how much or how long you’ve smoked,** when you quit smoking, your risk of heart disease and stroke starts to drop.  
2. **Set a quit date** -- In preparation for quitting the patient should set a quit date, ideally within 2 weeks. The patient should tell their family, friends, and coworkers about the quit attempt and request understanding and support.  
3. **Anticipate challenges** -- It is important for the patient to anticipate challenges to the planned quit attempt, particularly during the critical first few weeks (e.g., withdrawal symptoms such as negative mood, urges to smoke, and difficulty concentrating).  
4. **Remove tobacco products** -- Prior to quitting, patients should remove tobacco products from their environment. | Explaining with power point slides | Listening Answering | **Answering** |


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<td>1 mt</td>
<td>C. Ways to handle the Stress of not Smoking</td>
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<td>How to handle the stress of not smoking?</td>
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<td></td>
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<td>1. Write down the reasons why you quit and look at the list often.</td>
<td>Explaining with power point slides</td>
<td>Listening Answering</td>
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<td>2. Don’t talk yourself into smoking again. When you feel an urge to have “just one”, stop yourself. Think of what triggered you, and find a different way to it.</td>
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<td>3. Change your habits. Instead of having a cigarette after dinner, brush your teeth.</td>
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<td>4. Go where smoking isn’t allowed.</td>
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<td>5. Stick around people who don’t smoke.</td>
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<td>D. Relax yourself</td>
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<td>1. Try deep breathing. Take a long, breath, count to 10 and release it. Repeat five times and you’ll feel much more relaxed.</td>
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<td>2. Allow 20 minutes a day to let go of tension this way: Close your eyes, relax your muscles and think hard about one word, like “calm.” Say it until you reach a state of relaxation.</td>
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<td>3. Think positive thoughts! Focus on how great it is that you’ve stopped smoking, how food tastes better and how nice it is not to wake up coughing.</td>
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<td>Specific objectives</td>
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<tr>
<td>illustrate the home care instruction</td>
<td>3 mts</td>
<td>VIII. HOME CARE INSTRUCTION</td>
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<td>A. Identify heart failure as a chronic disease that can be managed with medications and specific self management behaviors.</td>
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<td>B. Take medications daily, exactly as prescribed. Monitor effects of medication.</td>
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<td>C. Know the signs and symptoms of orthostatic hypotension and how to prevent it.</td>
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<td>D. Weigh self daily. Obtain weight at the same time each day. (eg. Every morning after urination)</td>
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<td>E. Restrict sodium intake to 2-3 g daily; adapt diet by examining nutrition labels to check sodium content per serving; avoid canned or processed foods; eat fresh or frozen foods; consult the list of permitted and restricted foods; avoid salt use; and avoid excess in eating and drinking.</td>
<td>Explaining with power point slides</td>
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<td>Specific objectives</td>
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| 1 mt                |      | 1. Report immediately to the physician or clinic any of the following:  
|                     |      | a. Gain in weight of ≥2-3 lb (0.9-1.4 kg) in one day, or  
|                     |      | b. Loss of appetite  
|                     |      | c. Unusual shortness of breath with activity  
|                     |      | d. Swelling of ankles, feet or abdomen. Persistent cough  
|                     |      | f. Development of restless sleep; increase in number of pillows needed to sleep  
|                     |      | g. Can not walk up stairs that you used to climb regularly  
|                     |      | h. Faint or feel as though you are going to faint.  
|                     |      | 2. Warning sings of heart attack:  
|                     |      | Some heart attacks are sudden and intense, but most of them start slowly with mild pain or discomfort with one or more of these symptoms:  
|                     |      | a. Chest discomfort. Discomfort in other areas of the upper body  
|                     |      | b. Shortness of breath with or without chest discomfort  
|                     |      | d. Other sign including breaking out in a cold sweat, nausea or lightheadedness.  
|                     |      | Explaining with power point slides | Listening Answering |
Choosing a healthy lifestyle means avoiding smoking and alcohol, maintaining a healthy weight, and making use of social support structures. Your emotional health is also important in coping with heart failure. Your family and friends can provide support and allow you to voice any emotions you may be feeling. Communicating with others is a good way to rid yourself of fears and apprehensions about heart failure.

**Lifestyle Changes**

**The goals of lifestyle change include:**

- Decrease the risk of further heart damage
- Lessen symptoms
- Improve heart function.

**A. Decrease risk of further heart damage**

1. Stop smoking.
2. Reach and maintain your healthy weight.
3. Control high blood pressure, high blood cholesterol and diabetes.
4. Exercise regularly.
5. Avoid alcohol.

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<th>Specific objectives</th>
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<th>Learning activity</th>
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<td>adhere to lifestyle modification</td>
<td>3 mts</td>
<td>IX. LIFESTYLE MODIFICATION</td>
<td>Explaining with power point slides</td>
<td>Listening Answering</td>
<td>What are the goals of lifestyle modification?</td>
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| 2 mts               |      | **B. Monitor your symptoms. Call your doctor:**  
|                     |      | 1. if new symptoms occur  
|                     |      | 2. if your symptoms worsen  
|                     |      | 3. Do NOT wait for your symptoms to become so severe that you need to seek emergency treatment.  
|                     |      | **C. Support Structures**  
|                     |      | Family and friends are fundamental support structures for heart failure patients. Support groups for heart failure exist, but they are relatively few in number. Check with your local hospital for groups in your area.  
|                     |      | Whatever atmosphere you choose, it is important to have a means of sharing your emotions. Anxieties and fears can often be relieved by talking to others. By letting your family and friends know how you feel, they will better be able to help you cope with heart failure and will offer you the support you need.  
|                     |      | **Conclusion:-**  
|                     |      | Cardiac rehabilitation can reduce mortality and morbidity for patients with heart failure cost effectively. A diet low in sodium and fluid will help keep your heart working its best. | Explaining with power point slides | Listening Answering |