Status of Cardiac Care Patient Support Programme on Heart Failure Patients

By

Nikita Sharma

Dissertation submitted in partial fulfillment of the requirements of the degree

MBA Hospital and Health Management

Academic year, 2017-2019

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: **www.iihmr.edu.in**

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INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that **Nikita Sharma**, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at **Indegene,** from **4th February** to **3rd May 2019**.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.

Dr. Ashok Kaushik
Dean, Academics and Student Affairs
The IIHMR University, Jaipur
18 May 2019

Dr. Neetu Purohit
Associate Professor
The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur- 302029, Rajasthan, India.
Ph.: 0141- 3924700, 2791431- 32, Fax: 0141 3924738, E-mail: iihmr@iihmr.edu.in, Web.: www.iihmr.edu.in

REF_ID: HR02_HRO_AHR21670

Date: 17-May-2019

Place: Bangalore

To Whom So Ever It May Concern:

This is to certify that **Ms. Nikita Sharma (IND4684)** is working with Indegene Private Limited, Bangalore as **Care Management Executive,** in the **Customer Engagement Solutions** department from **04-Feb-2019** till date. She was allowed by the company to pursue her dissertation work during her working hours on the topic "IMPACT OF CARDIAC CARE PATIENT SUPPORT PROGRAMME ON HEART FAILURE PATIENTS".

Her office address is mentioned below –

Indegene Pvt Ltd.
7/6, Brunton Road,
Craig Park Layout, Ashok Nagar,
Bengaluru, Karnataka – 560025

For Indegene Pvt Ltd

Authorized Signatory

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **"STATUS OF CARDIAC CARE PATIENT SUPPORT PROGRAMME ON HEART FAILURE PATIENTS"** and submitted by **Ms. Nikita Sharma** MBA-HM 22 Enrolment No. **0611** under the supervision of **Dr. Neetu Purohit** for award of MBA in Health Management of the University carried out during the period from 4 February 2019 to 3 May 2019 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

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Signature

Abstract

Keywords; Patient Support programme, Vymada, Heart Failure, Adherence, Rehospitalization

Title

STATUS OF CARDIAC CARE PATIENT SUPPORT PROGRAMME ON HEART FAILURE PATIENTS

Introduction

The pharmaceutical companies are getting more inclined towards patient support programs (PSPs) which assist patients and/or healthcare professionals (HCPs) in more desirable disease management and cost-effective treatment. The utmost objective of these programs is patient care.

The lack of adherence of patients to prescribed medicines is a huge challenge to pharmaceutical industry worldwide. Therefore, bridging this gap of adherence is utmost necessity for pharma organizations to preserve their brand value and sale loss. A PSP is assistance for patient or interaction with patient carers outlined to aid in management of medication and disease outcomes. It also involves interaction with HCPs for support to the patients.

Heart failure is a chronic disease and for patients suffering with chronic diseases, a better understanding of a health care programme that seeks to improve quality of life of the patient is desirable. A more patient- focused program which seeks to improve the well-being of the patients is needed. Win-for-patients cardiac care is a patient support programme initiated by **Novartis** with an objective to support heart failure patients to manage their lifestyle, adhere to physician's advice and achieve better outcomes. The main objective of this research is to study the impact of this programme on patients who are enrolled and are on Vymada therapy.

Objective-

1) To assess the status of cardiac care patient support programme on Heart Failure patients
2) To assess the role of patient counsellor's in ensuring therapy adherence through patient support programme.

3) To know the satisfaction level of patients receiving counselling through patient support programme.

Methodology

The study was descriptive cross sectional in nature and the sample size was 54. It was conducted in Udaipur. The time duration of the study was of 3 months and the study data got collected in the form of a survey which was done by personally interviewing the respondents face to face or telephonically. A questionnaire was prepared having various subject related questions. The analysis of the data was done with the help of Microsoft Excel.

- **Result and conclusion**

This study of 54 patients provides the assessment of the impact of patient support programme on treatment adherence and decrease rehospitalization further reducing cost implications and adverse events in patients suffering from heart failure.

The data provides support for prescribing physicians to encourage enrolments in win-for-patients cardiac care for chronic conditions and for pharmaceutical companies to further develop and invest more in-patient support programmes.

Counselling on symptom management and lifestyle modification has helped the patients in reducing their heart symptoms. The programme has also increased cardiac care therapy adherence in patients suffering from heart failure.

ACKNOWLEDGEMENT

The dissertation opportunity I had with **Indegene Pvt Ltd, Udaipur** was a good probability of learning and the skill development. Therefore, I feel that I am lucky enough that I got a chance to work with this company. I am grateful to all the professionals whom I interacted with and who helped me in completing my study and gaining useful knowledge. I am deeply thankful to **Mr. Sameep Kavalanekar** Team Lead at **Indegene Pvt Ltd** for providing all the support and motivation throughout my study. I would also like to thank my institute, The IIHMR University, Jaipur for giving me such learning environment. Further it would be my pleasure to have a gratitude to **Dr. (Col.) Ashok Kaushik**-Dean of Academics and student affairs, and **Dr. Neetu Purohit,** my project guide for having faith in me and showing me the right directions in learning and providing the support and help throughout my study. I am also thankful to my family whose blessings are always there with me in every stage of my life. At last, I would be thanking all the individuals who have helped me either directly or indirectly in completing my study.

Sincerely

Nikita Sharma

MBA HM-22

The IIHMR University, Jaipur

Contents

Abbreviations

1 HF - Heart Failure

2 PSP- Patient support programme

3 NYHA- New York Health Association

4 WHO- World Health Organization

5 AE- Adverse Event

6 FDA- Food and drug administration

7 ICMR- Indian council of medical research

8 HCP- Health Care Professionals

COMPANY PROFILE

COMPANY OVERVIEW

Indegene gives human services arrangements that empowers worldwide social insurance associations address complex difficulties to improve wellbeing and business results.

Indegene drives Effectiveness and Efficiency while Bringing Pharma Products to Market through Modern Commercial and Medical Operations by consolidating profound therapeutic understanding, current innovation and adaptable commitment models.

MISSION

The mission of Indegene is to be a trusted and favored accomplice to worldwide human services associations to improve wellbeing and business results.

VISION

The vision of Indegene is to make and convey answers for human services today and tomorrow via flawlessly incorporating Analytics, Technology, Operations, and Medical Expertise.

PRINCIPLES OF INDEGENE

Passion

The association is enthusiastic about human services. It is tenacious in finding viable and brilliant answers for our clients. Indegene trusts that innovation and advancement will cut a dauntless way in upsetting social insurance to improve things.

Development

Indegene trusts that it is just on a par with it was yesterday, and that genuine advancement implies that we always look forward and manufacture aptitude in developing capacities that will drive accomplishment for the clients tomorrow.

Collaboration

At the core of everything Indegene do, as an arrangements organization its capacity to work together flawlessly crosswise over groups in 50 nations, with various scholarly and social foundation, and different abilities. Indegene trust the difficulties that medicinal services faces today needs coordinated effort between groups, abilities and perspectives.

INDEGENE SOLUTIONS

- Product Commercialization
- Enterprise Marketing and Customer Experience
- Technology and Software
- Commercial Software
- R&D/Medical Transformation
- Enterprise Data and Analytics

EXECUTIVE SUMMARY

Heart disappointment (HF) is a typical cardiovascular condition with expanding frequency and prevalence1. A few enormous clinical preliminaries on utilization of pharmacological treatment and gadgets has brought about an expanding utilization of proof based treatment of heart disappointment. In spite of these advances the dreariness and mortality of those harrowed with heart disappointment keeps on staying high. Not at all like western nations where heart disappointment is transcendently an ailment of older, in India it influences more youthful age gathering. The significant hazard factors for heart disappointment incorporate coronary conduit sickness, hypertension, diabetes mellitus, cardiotoxic drugs, valvular coronary illness and obesity2,3. In India coronary vein ailment, diabetes, hypertension, valvular heart infections and essential muscle sicknesses are the main sources for heart disappointment. Rheumatic coronary illness is as yet a typical reason for heart disappointment in Indians.

Heart disappointment quiet are known for successive re-affirmation or hospitalization. This is because of the endless and dynamic nature of heart disappointment disorder. Heart disappointment is perceived as the most costly cardiovascular illness on the planet because of its high utilization of clinical and money related assets. Heart disappointment isn't treatable however fundamental intercession can help in improve patient's wellbeing condition.

Heart disappointment is a perpetual sickness and for patients enduring with incessant infections, a superior comprehension of a medicinal services program that looks to improve personal satisfaction of the patient is alluring. A progressively quiet centered program which tries to improve the prosperity of the patients is required.

Tolerant advising through Patient help program's is a key segment in heart disappointment mediation process. It is a patient custom fitted consideration approach which centers around self-care the executives, way of life alteration, manifestation following and hazard observing. Persistent instructors have a tremendous duty in overseeing, teaching, surveying and assessing quiet with HF condition, subsequently it is foremost that tolerant guides embrace every single essential measure to help understanding comprehend and deal with their wellbeing condition.

The reason or point of the examination is to depict how to instruct patients on the wellbeing suggestions related with heart disappointment and self-care the executives and to think about the effect of patient help program on patients managing incessant heart disappointment. The goal of this examination is to improve and keep up patient utilitarian limit and prosperity by overseeing and controlling danger side effect and way of life adjustment. The examination undertaking will be to think about the effect of patient help program on heart disappointment patients with respect to patient's personal satisfaction, understanding adherence or consistence, rate of rehospitalization and wellbeing cost.

1 Introduction

A patient help program is a composed framework where an advertising authorisation holder gets and gathers data identifying with the utilization of its therapeutic items. Precedents are post-authorisation tolerant help and infection the executives programs, overviews of patients and medicinal services suppliers, data assembling on patient consistence, or remuneration/re-imbursement plans.

Greater part of patient help programs (PSP) can be categorized as one of three classifications with the accompanying goals:

To bolster patients and help them accept their drugs as endorsed (consistence/adherence) To enable patients to comprehend their condition and give exhortation on overseeing infection for example way of life (exercise or diet), ailment training To give an administration or budgetary help or repayment support for patients otherwise called patient help programs) Reports of unfriendly occasions are typically acquired unexpectedly to the principle motivation behind the program

Not intended to "effectively request" unfriendly occasion reports

•General questions identified with the prosperity of patients may animate the revealing of security data

•Patients may likewise intentionally notice an unfavorable occasion without anyone else activity over the span of the connection or at some other point through different methods (for example committed PSP telephone line/email or general organization contact number/email).

1.1 PSP – compliance /adherence

Projects are intended to utilize numerous strategies for communication and different media to help with improving consistence

• Factors which may add to non-adherence include:

– Forgetfulness

– Confusion because of a mind boggling treatment routine

– Struggle with self-organization

– Cost

– Side impacts

– No apparent advantage

• Some of these variables lead to deliberate non-adherence and others to accidental non-adherence.

• Combinations of collaborations with the patient might be utilized in a solitary program

• Each contact has the potential for creating unfriendly occasion data

Communications to limit unexpected non-adherence may include:

– Patient instruction
– Assistance directing the drug (homecare programs)

– Reminders by means of SMS content informing or portable applications

• New age of PSPs went for limiting purposeful non-adherence utilizing wellbeing brain science to influence conduct change through understanding the patients' frames of mind and convictions and commonly include:

– Education and guiding where an advocate converses with a patient about their sickness and treatment rather than giving material in print (in spite of the fact that this might be done also)

• Interaction type impacts the probability of unfavorable occasion announcing

1.2 PSPs – Disease Management

• Not item explicit; patients can be on various prescriptions

• Patient instruction to expand ailment mindfulness and improve illness the board

• Typically directed through gatherings sessions utilizing instructive material

• Aim to improve singular personal satisfaction through instruction, e.g – Diabetes sickness the executives programs ordinarily give training on the job of eating routine and exercise, self checking of glucose, taking medicine, diminishing dangers of confusions from diabetes and so on.

• Adverse Events might be referenced deliberately over the span of the collaborations Examples of PSPs

• A wide assortment of PSPs utilize numerous strategies for collaboration and media; " nobody measure fits all"

• Each PSP considers the ailment or drug as well as the qualities of the patient included

• Digital media is utilized progressively which fits better with patient ways of life (for example portable applications or SMS instant messages, internet based life and so on).

CARDIAC CARE PATIENT SUPPORT PROGRAMME FOR HEART FAILURE

Win-For-Patients cardiac care is a patient support programme initiated by **Novartis** with an objective to support heart failure patients to manage their lifestyle, adhere to physician's advice and achieve better outcomes. The programme is started in association with a Heart failure drug named Vymada or Entresto. Novartis runs patient support programme for 204 chronic ailments including cardiac, oncology, respiratory and visionary aliments. As per pharma code of conduct; a pharma associate cannot interact with the patient directly hence the programme is implemented by a Healthcare service provider Organization; Indegene. The programme was launched in 2016.

The training and implementation part of the programme is completely handled by Indegene. Win-For-Patients cardiac care is an integrated care for patients suffering from chronic heart failure. The major components of this programme include;

- Support for adherence to and compliance with physician's advice
- Education and counselling to patients and caregivers
- Team of qualified and committed educators for patient support
- Home delivery of medicine through participating pharmacies

The major targeted outcomes of the programme include;

- Ensures adherence to physician's advice to improve health outcome
- Empowers patients to manage heart failure more actively
- Supports caregiver for enhanced quality of care
- Provides value add to patients

1.4 PRINCIPLES OF PATIENT SUPPORT PROGRAMME

1) Put Patients First

All interactions with patients must ultimately benefit patients by enhancing the standard of care, raising awareness about diseases and their treatment options, or otherwise contributing to the ethical delivery of healthcare.

2) Engage appropriately

Associates must not offer, approve, or provide anything of value with the intent or consequence of inappropriately influencing or rewarding the patients for the use of any products.

3) Act with clear intent

As trusted partners in healthcare, all of the activities must have clear objectives that are accurate, truthful, not misleading, and appropriate for their intended context.

1.3 NEED FOR CARDIAC CARE PATIENT SUPPORT PROGRAMME

1) AE Reporting

An Adverse Event (AE) is any untoward medical occurrence in a patient or clinical-trial subject administered with a Medicinal Product / Medical Device, and which does not necessarily have to have a causal relationship with this treatment.

If the patient encounters any problem or side effect during the therapy medication; it is important that the event should be reported; so that it can be eliminated.

As per the pharma code of conduct, the pharma company associates cannot directly interact with the patient, and hence a Third party is appointed for implementing the patient support programme who can interact with patients and report adverse event.

2) Improving therapy Adherence in patients

According to recent studies negligence among patients in adhering to the therapy is high which majorly contributes to increase rehospitalization in Heart failure patients.

To ensure therapy adherence in patients; the programme is of major value and importance.

With respect to recent findings by Novartis Vymada in association with Win-For-Patients cardiac care is known to have reduced 53% rehospitalization in heart failure patients and supposedly have increased the life expectancy of patients by 5 Years.

3) Counselling benefits to patients

The patients are counselled on various topics like- diet, exercise, symptom management and stress management. Along with periodic tele counselling, the patients are also given inputs like water bottle (to keep a track of the fluid intake), salt sachets to monitor salt intake, booklets on stress management, symptom management, exercise and activities and dietary recommendations to understand the disease better.

This supports patients and their caregivers to manage their symptoms effectively.

1.5 MODE OF OPERATION OF WIN-FOR-PATIENTS CARDIAC CARE PROGRAMME

Patient counsellor meets the empanelled doctors with the pharma associates and explains the patient support programme and its benefits to the doctor and takes permission for counselling the patients in his/her OPD.

If the doctor permits the counsellor visits the Doctor's OPD

The doctor refers the Heart failure patients to the counsellors.

The counsellor interacts with the patient and the caregiver and collects some brief insights about the patient; like how long the patient is diagnosed with heart failure, current medications and currently prescribed medications.

The counsellor obtains consent from the patient for enrolling in the programme. If the patient agrees, the patient is initially explained the benefits of the programme and then counselled on Heart failure.

The patient is counselled on critical topics like;

- Living with heart failure
- Symptoms management and monitoring
- Importance of adherence
- Tips on diet
- Managing stress better
- Tips on exercise

After counselling the patient is enrolled in the programme through a supported software named optimax.

After enrolling into the programme, the patient receives regular follow up through home visit and telephonically along with certain inputs like booklets, calibrated water bottles and salt sachets.

1.6 TRAINING PATIENT COUNSELLORS FOR COUNSELLING HEART FAILURE PATIENTS

Tolerant guiding is the fundamental administration given under win-to patients heart care program;

Fitting to the necessities of the individual patient can streamline the member needs

Keys of successful patient guiding abilities require undivided attention, addressing, compassion, regard, and exchange. In light of the present learning, great patient directing ought to be a two-way intelligent conveying process, where members must be welcome to react and look for additional data. The reason for the patient guiding is to the

1) Understand the requirements of patients and critical thinking aptitudes of the patient to improve adherence, keeping up nature of wellbeing and personal satisfaction

2) HCP'S and patients face numerous difficulties related with heart care treatment. Non-adherence to treatment adherence is the second most grounded indicator of movement to heart disappointment and demise, after heart assault Incomplete adherence to cardiovascular treatment is basic in all gatherings of treating people.

3) Adherence ought to be surveyed and routinely strengthened by everybody in the clinical group (Physician, advisors, medical attendants, drug specialists, peer teachers, NGO laborers and so on) at every one of the patient's visits.

4) Adherence should be assessed and routinely reinforced by everyone in the clinical team (Physician, counsellors, nurses, pharmacists, peer educators, NGO workers etc) at each of the patient’s visits.

1.7 Counselling for Treatment Preparation and Adherence:

Establishing the rapport and relationship with the patients

1. Providing necessary information and guidance to the patient

2. Encouraging peer participation and help identify treatment support person

3. Developing an individual diet and lifestyle management plan which fits for the patient and identifying treatment reminders.

4. Assessing patient's readiness for and commitment to therapy.

5. If patient is facing difficulty in adhering to regular doses, reinforcing adherence counselling. Listing

barriers to adherence and develop strategies to overcome these barriers.

1.8 Techniques which assist in adherence are:

(i) Keeping up an agreeable, mindful association with the patient, for which essentials are affinity building, guaranteed secrecy, protection, simple availability and sympathy;

(ii) Emphasizing the key focuses

(iii) Giving explanations behind key exhortation

(iv) Giving distinct, concrete and unequivocal directions

(v) Supplementing and strengthening the verbally expressed words with composed data

(vi) Ensuring input

Win-For-Patients heart care is a patient help program which expects to give extensive consideration by submitted and qualified group. The patient advisor is guaranteed from the regarded preparing foundation BERKELEY HEALTH EDU.

1**.9 Training perspectives**

- Heart Anatomy
- What is Heart disappointment
- Classification of heart disappointment
- Heart Failure Symptoms
- Heart disappointment indications which require quick meeting with specialist
- Diagnosis of heart disappointment
- Medications for Heart disappointment
- Importance of Symptom Tracking

- How to clarify Fluid and salt confinement to patients
- Stress the executives tips
- Exercise tips
- Diet the board tips
- Counselling tips

1.10 ROLE OF COUNSELLORS IN ENSURING THERAPY ADHERENCE IN HEART PATIENTS

Negligence in adhering to therapy has become a major concern in treating heart failure.

Major reasons behind lack in Vymada therapy adherence are;

1) Cost Implications

The major reasons behind lack of therapy adherence is high cost of the medicine. Heart failure patients who come from rural background or patients who are poor; for such patient's affordability of medicine becomes a concern and they stop taking the therapy without doctor's consultation.

With help of PSP Counsellors are in regular touch with patients and receive continuous follow ups of the patient either through telephone call or home visits. This helps the patient to share their concern as well and the patient is also given discount through participating pharmacies.

2) Reporting Adverse events

Some common adverse events or side effects associated with the therapy include;

- Hypotension (low blood pressure)
- Dizziness
- Hyperkalemia (increase Potassium level)

If patients experience tolerability issues (symptomatic hypotension, hyperkalemia, renal dysfunction), the counsellor can advise patient for visit to doctor and report adverse event so that the complications associated with

2) STUDY OBJECTIVES & METHODOLOGY

3.1 Objective-

1) To assess the status of cardiac care patient support programme on Heart Failure patients
2) To assess the role of patient counsellor's in ensuring therapy adherence through patient support programme.
3) To know the satisfaction level of patients receiving counselling through patient support programme.

3.2 Methodology-

Study Design-

The study design adopted for this research is Descriptive cross-sectional study design.

Setting of the study-

The study was conducted in Udaipur district of Rajasthan.

Study period-

The duration of the study was 3 months (4^{th} February to 3^{rd} may).

Study population-

The study included Heart failure patients enrolled in the Win-for-patients cardiac care programme.

Sample Size-

54 Heart failure patients were included in the study. The data of the patients was obtained from the Optimax entries (Software tool for exercising patient follow up by the counsellors)

Data Collection-

The data was collected from enrolled patients through designed structured questionnaire telephonically and face to face.

Data collection tool-

For this study, the research instrument used was a questionnaire consisting of relevant questions related to the study topic.

Inclusion Criteria-

Heart failure patients enrolled into Win for patients' cardiac care programme.

Exclusion Criteria

Heart Failure patients who are not prescribed Vymada.

Data Analysis Technique:

The technique used for the purpose of data analysis is MS Excel. After the whole data was collected from the respondents, it got analysed and the interpretations were formulated in MS Excel by taking the help of various graphs and pie charts.

4 Data Analysis and results

Assessment of the status of cardiac care patient support programme on Heart Failure patients.

Fig 1: Percentage of skipped doses to regular doses

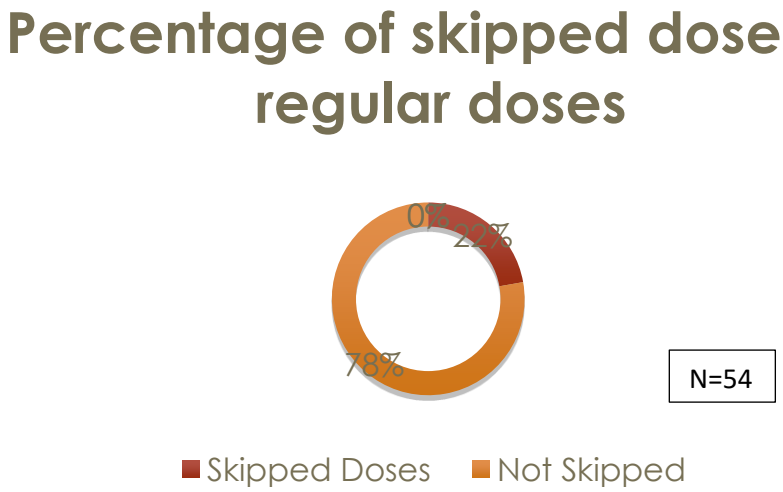
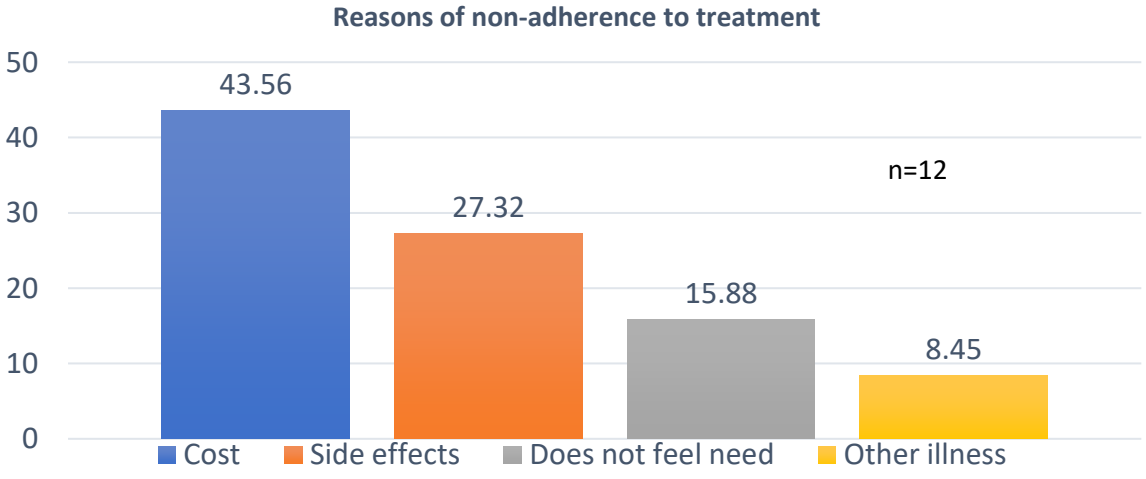


Figure 1 shows that out of the total 54 patients enrolled into the programme 22% patients reported that they have skipped dose in the last one week.

Fig 2 Reasons of non-adherence to the therapy



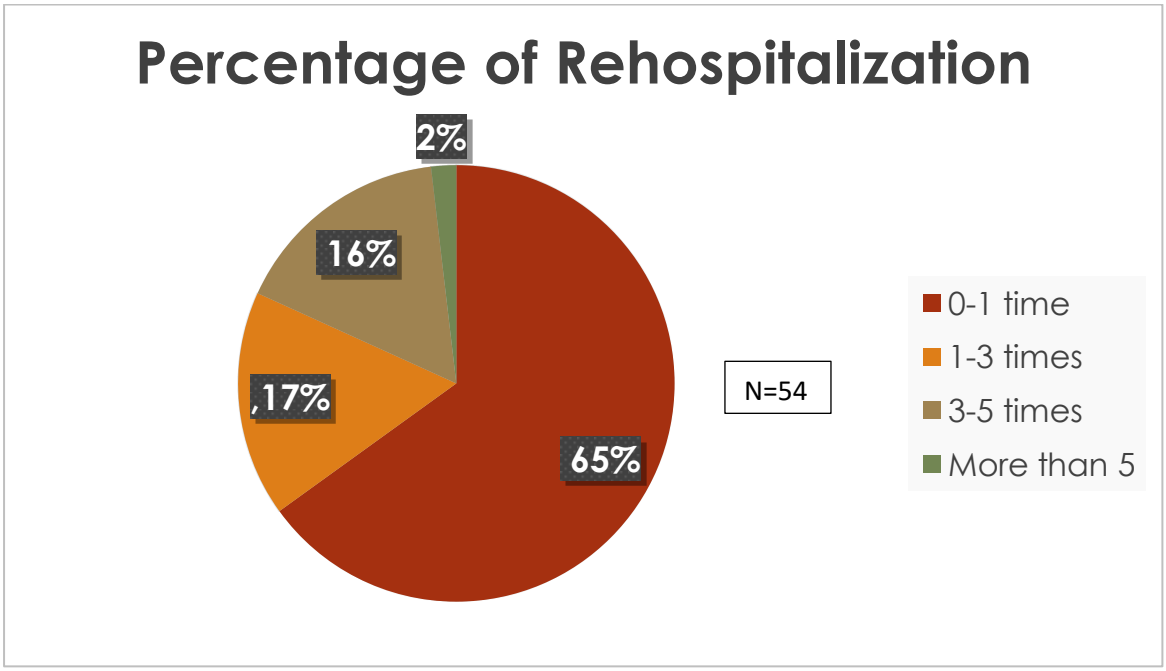
Out of the total 54 patients 22% patients reported that they have skipped therapy doses in the last one week. Figure 2 shows that the respondents were asked reason for their non-compliant behaviour. About 43.56% reported cost as the major reason. Further 27% respondents showed non-adherence because of some adverse event

The heart failure medication has 3 major side effects;

- Hypotension
- Hyperkalaemia and dizziness.

Further the respondents reported non-compliance because they had started recovering and did not feel the need and one reason was, they were facing other illness like kidney disorders, diabetes and hypertension which are usually associated with heart failure.

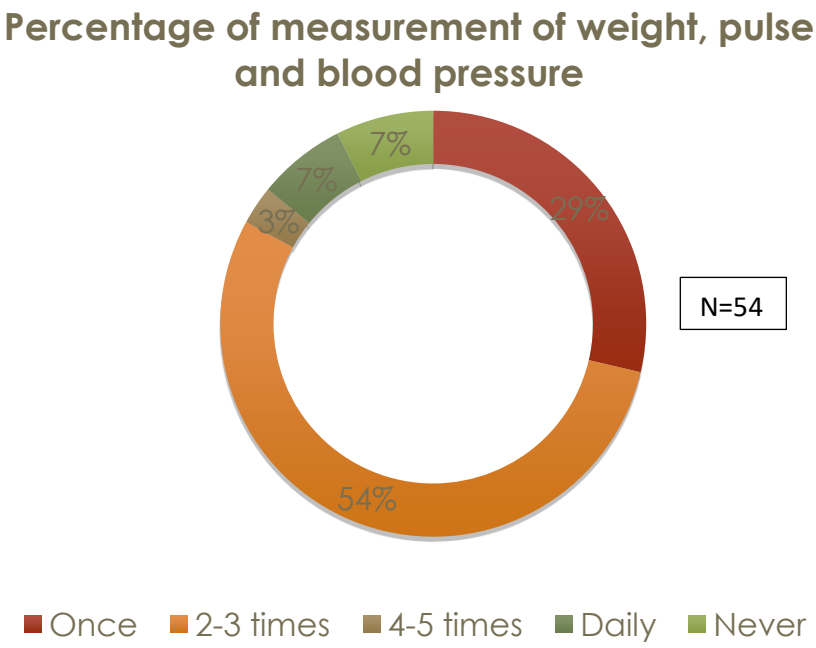
Fig 3 Percentage of rehospitalization



- Fig 3 shows that rehospitalization is very common in heart failure patients because of symptom worsening. This adds to lot of financial and mental burden on patients and their families.
- Out of the 54 respondents 65% patients were hospitalized 0-1 time in the last 3 months and only 2% patients responded that they were hospitalised more than 5 times.

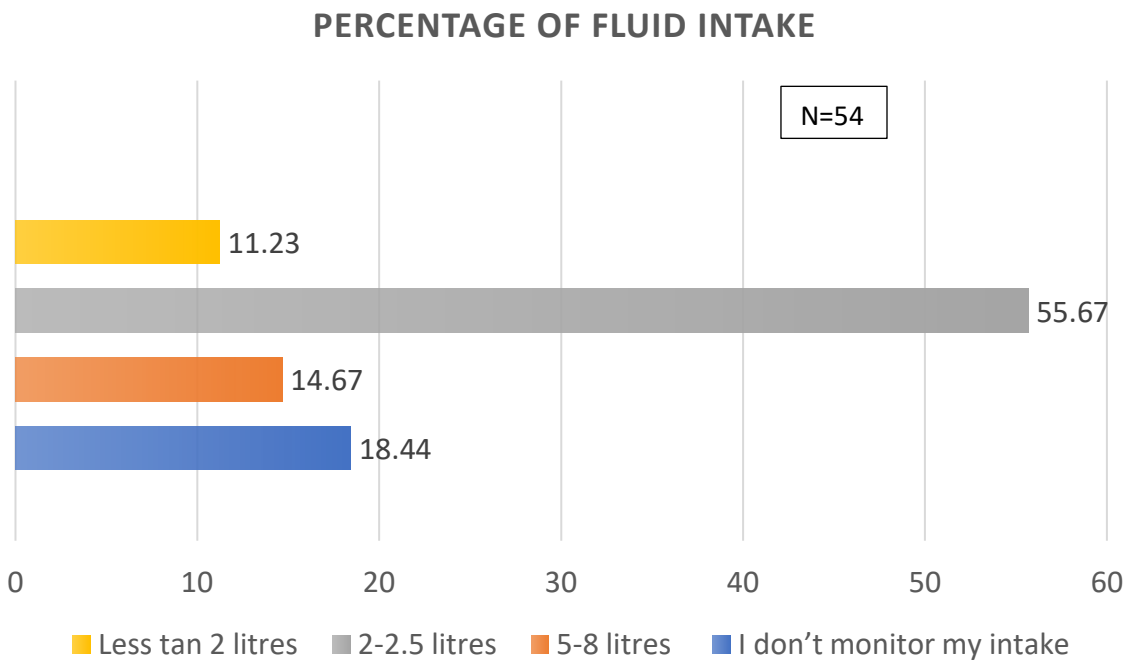
- The major reason for rehospitalization in heart failure patients is because of lack of proper management the symptoms might get worsen and the patient might require immediate medical attention.

Fig 4 Percentage of measurement of weight, pulse and blood pressure



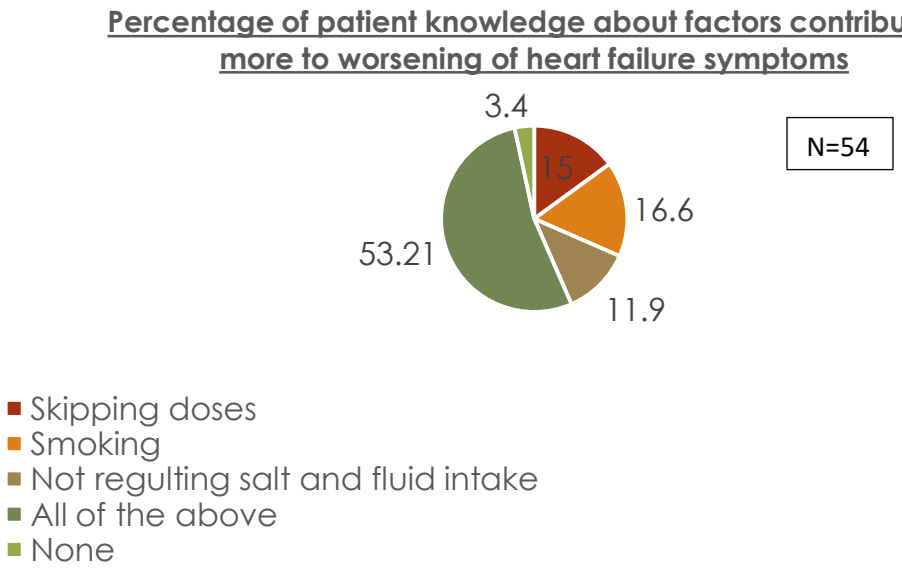
- Fig 4 shows that the heart failure management programme includes an important topic of symptom management in heart failure patients.
- The patients are provided with a booklet which explains the symptoms of heart Failure. The patient is also provided counselling on this aspect.
- Then the patient is asked to measure weight, pulse rate and blood pressure and also Note the additional symptoms he is facing.
- This helps in understanding the recovery status which works well for both; doctor as well as patient.
- Out of the total 54 respondents; 54% responded that they measure 2-3 times in a week, only 7% responded that they do this on daily basis. Simultaneously 7% responded that they never track their symptoms.
- Once a week and never while 3% responded that they track their symptoms 4-5 times.

Fig 5: Percentage of Fluid intake



- Fig 5 shows that heart failure patients who are currently diagnosed and have initiated the medications in the past 3 months, the patient is advised to restrict his fluid intake because the fluid starts getting accumulated in the body. Because of this the patient starts gaining weight and encounters swelling mostly in lower legs. If the patient is on diuretics it is mandatory to restrict the fluid intake of the patient to 2-2.5 litres per day.
- Among the 54 patients enrolled all patients were advised to restrict their fluid intake. This data was obtained from the system entries in the software.
- About 55% respondents responded 2-2.5 litres fluid intake per day which is considered ideal for heart failure patient.
- The patients who responded less than 2 litres were patients with EF less than 15% and hence they are advised more fluid restriction while the patients who responded 5-8 litres were around 15% and these patients were on therapy for long time so they were advised by the doctor to increase their fluid intake little.
- 18% patients do not monitor their intake, which can further lead to symptom worsening

Fig 6 Percentage of patient knowledge about factors contributing more to worsening of heart failure symptoms



- Fig 6 shows that the patient knowledge and understanding of heart failure symptoms and management.
- The three mandatory compliant issues are listed and the patient is asked to choose the

Most affecting factor to heart failure.

- Out of the total 54 patients surveyed,

Around 53% patients responded all of the above which was the ideal choice of option.

The remaining respondents who chose only one option out of the three might be in a practice

Of non-compliance to therapy and symptom management.

To assess the role of patient counsellor's in ensuring therapy adherence through patient support programme.

Fig 7 Percentage of benefit of counselling in ensuring therapy

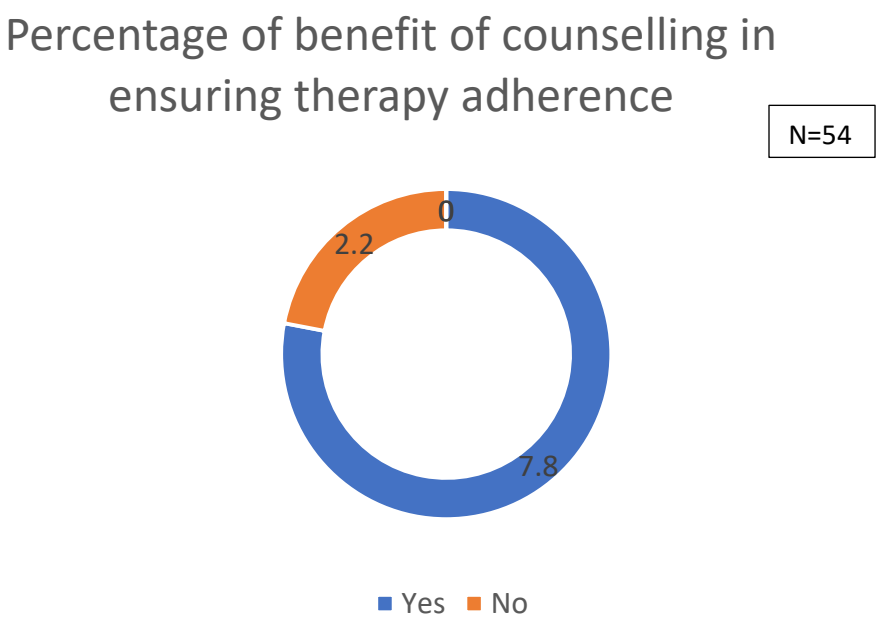
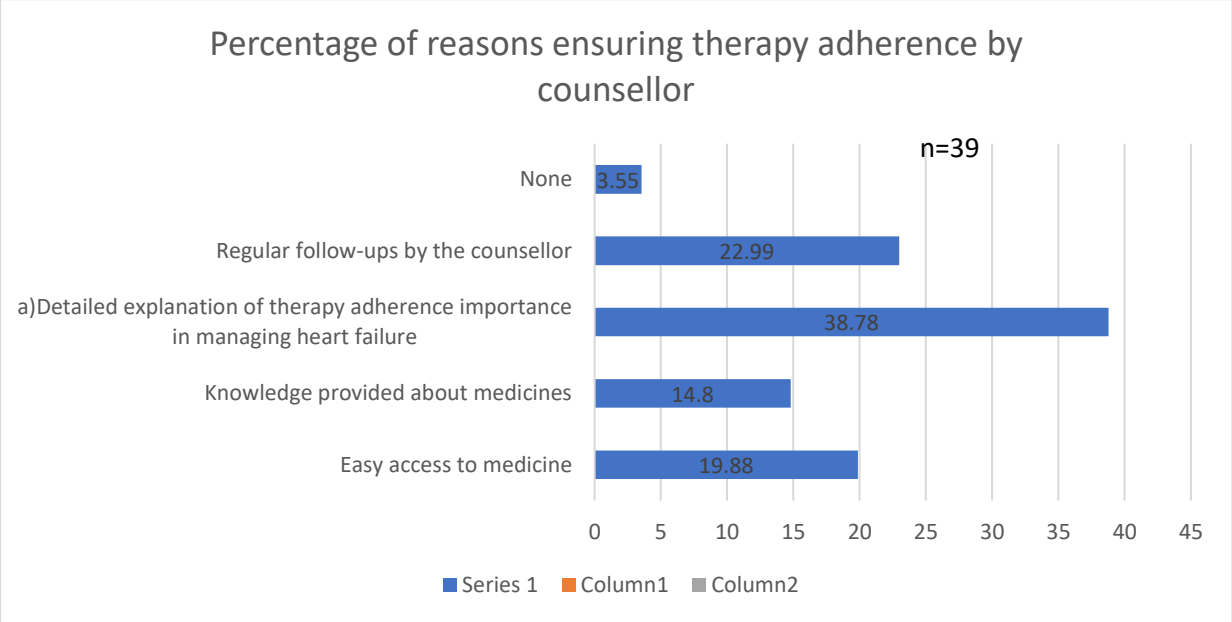


Fig 7 shows the patient's response on patient perspective on benefit of counselling in ensuring therapy adherence. Out of 10% respondents 7.2% responded with yes saying that they take their medicine on time.

Fig 8 Percentage of factors ensuring therapy adherence by counsellor



- Fig 8 shows that out of the 54 patients the highest rated response was for the detailed explanation of therapy adherence by counsellor, around 40%

- After that the second highest respond was recorded for regular follow-ups and visits by the counsellor, Around 23%
- 15% responded on knowledge provided on medicines which is also very important and around 20% responded for easy availability of medicine on discounted price directly through stockist or online pharmacies.

To know the satisfaction level of patients receiving counselling through patient support programme.

Fig 9 Percentage of patient satisfaction

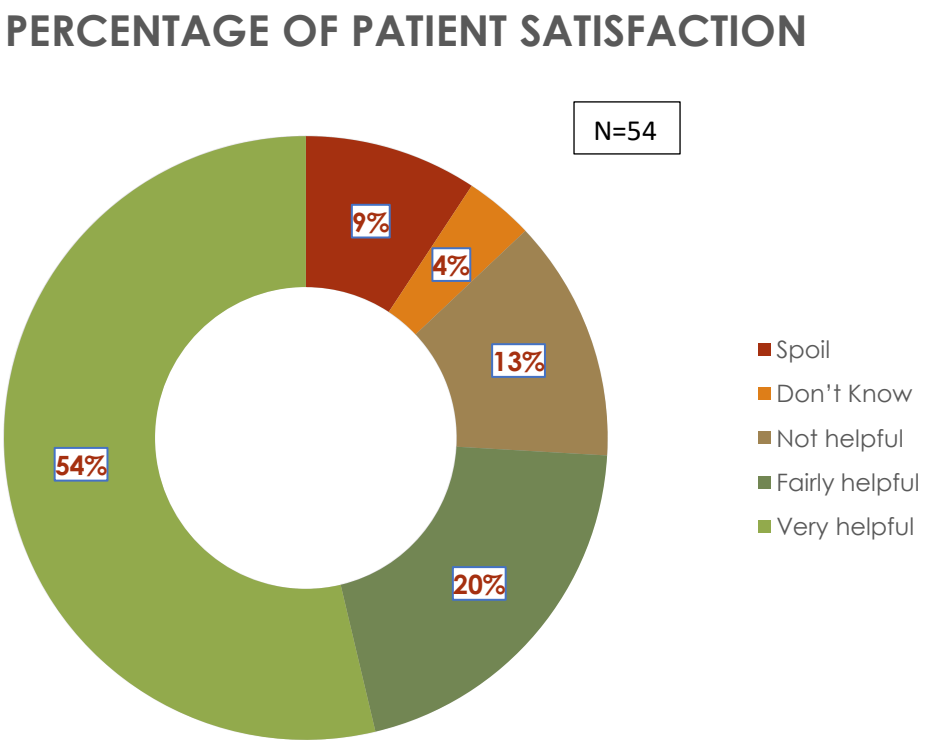


Fig 9 shows that out of 54 patients only 54% respondents rated the programme satisfactory with very helpful response

Fig 10 Percentage of patient satisfaction with respect to various parameters

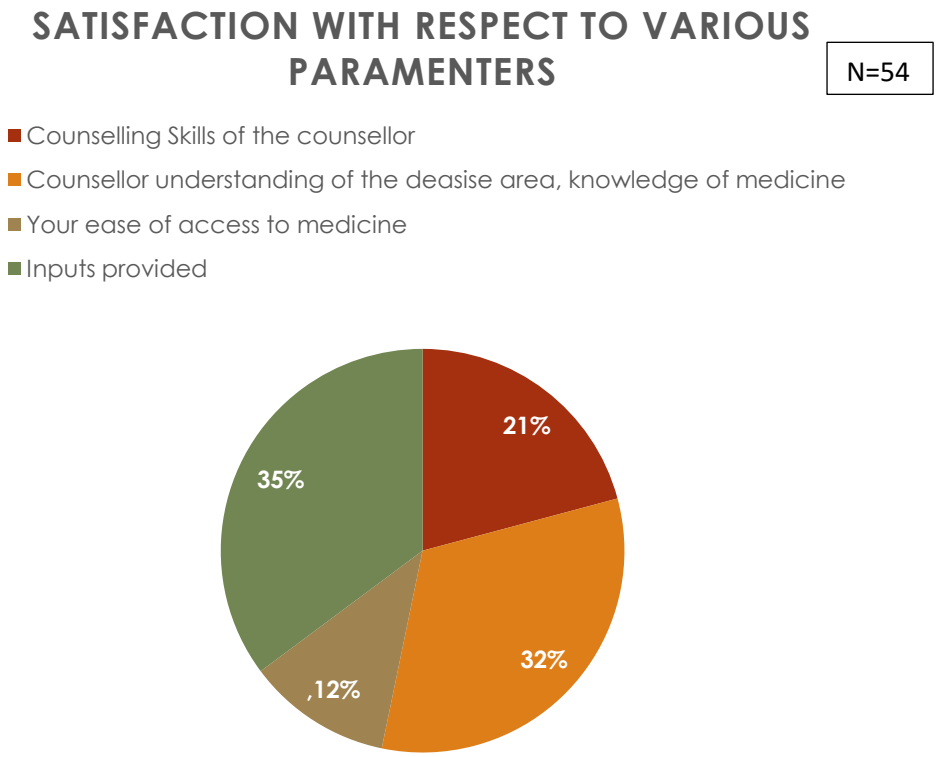


Fig 10 shows that around 21% respondent responded with satisfactory counselling service which indicated that the counselling is not up to the mark.

The data analysis shows that out of the total 54 patients included in the study the adherence rate of therapy was much higher than the non-adherence. Further the reason for non-compliance were studied which showed the major reason was cost of the therapy following the side effects.

- To reduce rehospitalization is also one of the objectives of patient support programme which was recorded by 65% patients by zero or one readmission in hospital.
- The compliance towards symptom tracking was studied which showed 54% patients fill the symptom tracker twice or thrice in week and only 7% fill it daily. This shows non-compliant behaviour of patients towards symptom tracking.
- Only 18% patients showed non-compliance in fluid restriction. Which shows that counselling was effective in this area of PSP.
- It was observed that 53% respondents had knowledge of symptom worsening.

- About 7.8% respondents out of 10 feels that counselling has provided them benefits of ensuring therapy adherence. Out of the 54 patients the highest rated response was for the detailed explanation of therapy adherence by counsellor, around 40%
- After that the second highest respond was recorded for regular follow-ups and visits by the counsellor, Around 23%
- 15% responded on knowledge provided on medicines which is also very important and around 20% responded for easy availability of medicine on discounted price directly through stockist or online pharmacies
- Out of 54 patients only 54% respondents rated the programme satisfactory with very helpful response
- Around 21% respondent responded with satisfactory counselling service
- Which indicated that the counselling is not up to the mark

7 Conclusion

- This study of 54 patients provides the first assessment of the impact of patient support programme on treatment adherence and decrease rehospitalization further reducing cost implications and adverse events in patients suffering from heart failure.
- The data provides support for prescribing physicians to encourage enrolments in win-for-patients cardiac care for chronic conditions and for pharmaceutical companies to further develop and invest more in-patient support programmes.
- The success of the cardiac therapy depends on the patient compliance, to ensure improvement in heart failure symptoms.
- Educating the patient before the initiation of therapy, and providing counselling on HF symptom management, lifestyle modification and importance of therapy adherence, and continuously monitoring and supporting adherence can reduce the burden of the doctor to spend more time on examination and diagnosis of patient.
- Patient's perspective on impact of the programme was gathered which revealed that the programme has achieved better outcomes with respect to increased therapy adherence and decreased rehospitalization.
- Through Symptom tracking and fluid restriction management of heart failure has become easy and symptoms which worsen the heart failure have also reduced.
- Patient support programmes should become an integral part of every therapy dealing in chronic ailments. Role of counsellors should be more specific when counselling heart failure patients.

8 Limitations:

- This is a kind of pilot study and it was conducted out only in a specific geographical area.
- The size of the sample that was taken for the study was short, so it has affected the accuracy of the outcomes.
- The time during which study was performed was of short duration, so more data from the respondents could not be collected.
- Time duration of the interview was short due to the working hours of the respondents.

Annexure 1

Status of Patient support programme

Q 1) Have you skipped your medicine dose in the last one week?

a) Yes b) No

Q 2) What was the reason for not taking medicine?

a) Cost
b) Side effects
c) Does not feel like
d) Other illness

Q 3) How often did you get hospitalized because of heart failure in last 3 months?

a) 0-1 times
b) 2-3 times
c) More than 5 times

Q 4) How many times do you measure you weight, blood pressure and pulse in a week?

a) Once
b) 2-3 times
c) 2-4 times
d) Daily
e) Never

Q 5) What is your average daily fluid intake?

a) Less than 2 litres
b) 2-2.5 litre
c) 5-8 litres

d) d) I don’t monitor

Q 6) Mark the factors that you think can worsen your heart failure?

a. Skipping dose
b. Smoking
c. Not regular intake of salts and fluids
d. All the above
e. None

Q 7) Do you think Counselling has helped you in ensuring therapy adherence?

a. Yes
b. No

Q 8) Mark the option that do you think has helped in ensuring therapy adherence?

a. Regular follow up by Counselled
b. Detail explanation of therapy adherence
c. Knowledge provided about medicine
d. Easy access to medicine
e. None

Q 9) What is your Satisfaction level of the Win for patients- cardiac care program?

a. Not helpful
b. Fairly helpful
c. Very helpful
d. Spoil
e. Don’t know

Q 10) Mark the most satisfying factor of the win for patient cardiac care program?

a. Counselling skills of the counsellor
b. Counsel understanding with the disease area, knowledge of medicine

c. Your ease of access to medicine
d. Inputs provided

a. ANNEXURE 2

HEART ANATOMY

Heart has 4 chambers. The upper chambers are called the left and right atria, and the lower chambers are called the left and right ventricles. A wall of muscle called the septum separates the left and right atria and the left and right ventricles. The left ventricle is the largest and strongest chamber in your heart. The left ventricle's chamber walls are only about a half-inch thick, but they have enough force to push blood through the aortic valve and into your body.

- **The Heart Valves**

Four valves regulate blood flow through the heart:
The tricuspid valve regulates blood flow between the right atrium and right ventricle.
The pulmonary valve controls blood flow from the right ventricle into the pulmonary arteries, which carry blood to lungs to pick up oxygen.
The mitral valve lets oxygen-rich blood from lungs pass from the left atrium into the left ventricle.
The aortic valve opens the way for oxygen-rich blood to pass from the left ventricle into the aorta, the body's largest artery.

- **The Conduction System**

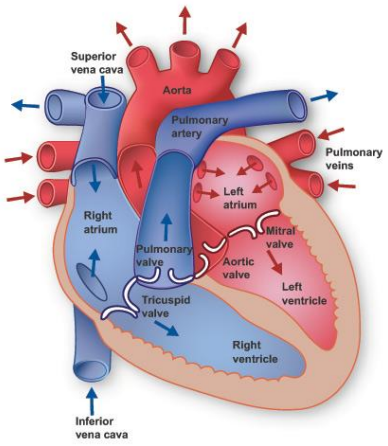
Electrical impulses from the heart muscle (the myocardium) causes the heart to contract. This electrical signal begins in the sinoatrial (SA) node, located at the top of the right atrium. The SA node is sometimes called the heart's "natural pacemaker." An electrical impulse from this natural pacemaker travels through the muscle fibres of the atria and ventricles, causing them to contract. Although the SA node sends electrical impulses at a certain rate, the heart rate may still change depending on physical demands, stress, or hormonal factors.

-

- **The Circulatory System**

The heart and circulatory system make up the cardiovascular system. The heart works as a pump that pushes blood to the organs, tissues, and cells of your body. Blood delivers oxygen and nutrients to every cell and removes the carbon dioxide and waste products made by those cells. Blood is carried from the heart to the rest of your body through a complex network of

arteries, arterioles, and capillaries. Blood is returned to the heart through venules and veins. If all the vessels of this network in the body were laid end-to-end, they would extend for about 60,000 miles (more than 96,500 kilometres), which is far enough to circle the earth more than twice!



HEART FAILURE BASICS

- Pumping action of the heart is inadequate
- Blood backs up into the lungs, making breathing difficult *(left-sided failure*
- Blood also backs up into the veins, causing swollen legs and feet *(right-sided failure*

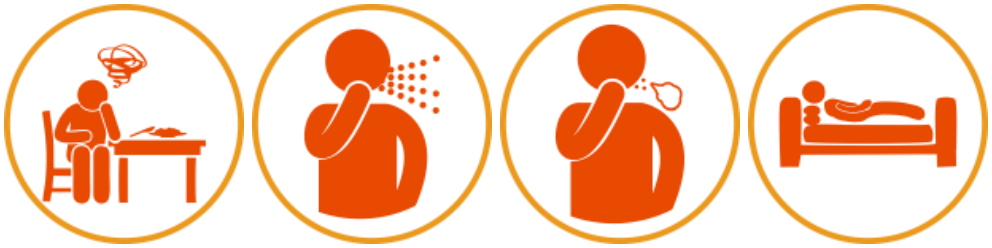
➢ Causes of Heart Failure

- Coronary artery disease
- Enlarged heart
- Inflammation of heart muscle
- Abnormal heart valves

- High blood pressure
- Lung disease
- Diabetes

Symptoms of Heart Failure

- Trouble breathing that is worse during exercise or when lying down
- Swelling in ankles, legs, and stomach
- Feeling restless, tired, or weak
- Gaining weight

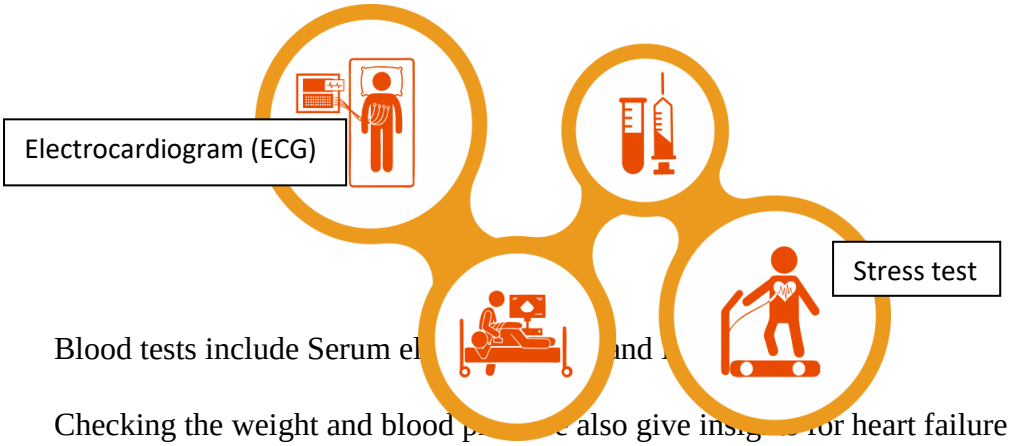


- Having a loss of appetite
- Having a dry cough that does not go away
- Coughing up white frothy phlegm (spit)
- Needing 2 or more pillows at night or having to sleep in the chair

Diagnosing Heart Failure

Weight

Blood Pressure



Blood tests include Serum el and

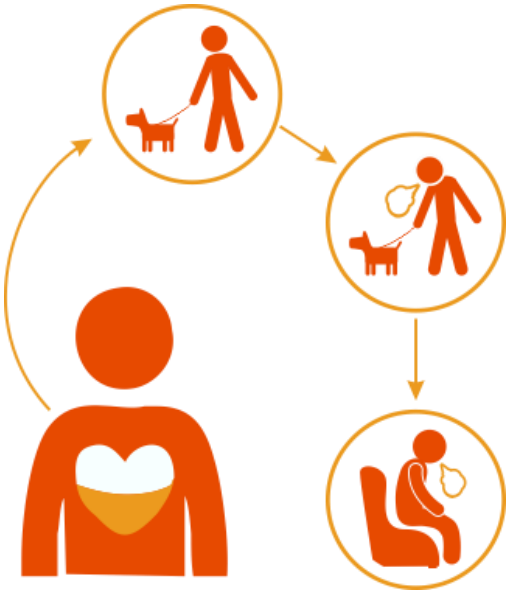
Checking the weight and blood p e also give insig for heart failure symptoms.

ECHO

Echocardiogram

Ejection fraction: The ejection fraction (EF) is an important measurement in determining how well the heart is pumping out blood and in diagnosing and tracking heart failure.

Echocardiogram measures the EF - normal heart's ejection fraction may be between 50 and 70. A measurement < 40 may be evidence of heart failure or an enlarged heart.



1) **Managing Heart Failure**

Monitored Cardiac Rehab

Prescription Medications

Implanted Devices

Lifestyle changes

Surgical procedures

Lifestyle Changes: Should maintain active lifestyle, Mild to moderate exercise habits; avoid cigarettes, alcohol etc., and Limiting salt and fluid contents.

Medications

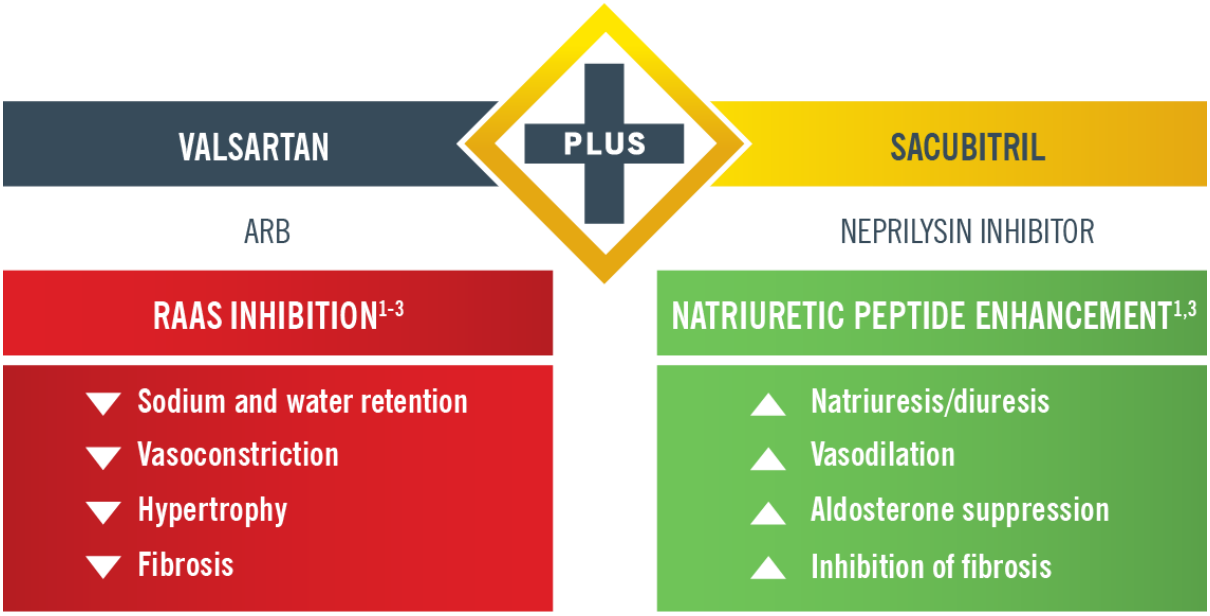
- Diuretics—help keep off fluid. Also known as water pills.
- ACE Inhibitors—relaxes blood vessels, makes it easier for heart to pump (example ramipril)
- ARB- (telmisartan, valsartan)
- Beta Blockers—reduce the work on your heart
- Aldosterone Antagonists— relaxes blood vessels, makes it easier for heart to pump
- Angiotensin receptor neprilysin inhibitor (ARNI) - New class relaxes blood vessels, and also reduces work on heart makes it easier for heart to pump
- I_f Channel Blocker (or inhibitor) - reduces heart rate
- Digoxin—helps strengthen your heart
- Hydralazine/isosorbide—helps your blood vessels relax, makes it easier for heart to pump
- Angiotensin Receptor neprilysin Inhibitor (ARNI)
- It is a new class drug (NYHA Class 4)

  Indication- To reduce the risk of cardiovascular death and hospitalization for heart failure in patients with chronic heart failure and reduced ejection fraction *HFrEF*[1] (less than 40)

  Vymada also known as Entresto in other countries is composed of two molecules Sacubitril and valsartan.

  It is usually administered in conjunction with other heart failure therapies, in place of ARB or ACE inhibitors.

Mechanism of action-



https://www.entrestohcp.com/mechanism-of-action

Symptoms requiring urgent attention by a doctor:

- Chest discomfort,
- Faintness,
- Need of additional pillows for comfortable sleep,
- Cough with froth / pink sputum,
- severe persistent shortness of breath,
- Trouble sleeping due to difficulty in breathing,
- irregular heartbeats palpitations which makes a patient feels dizzy or lightheaded.

Importance of symptom tracking

It is important to keep track of heart failure symptoms, so that one can know when those are getting worse or whether they are developing new ones.

The patients are advised to note their symptoms regularly and check with the doctor regularly.

Using a tracking system always helps the patient to tell whether the symptoms are getting better / worse as patient will have something concrete to compare those with respect to time to patient is on treatment.

Salt and fluid restriction in patients

Excessive salt intake causes fluid retention in body hence limiting salt intake is very important in managing heart failure. The maximum amount of salt recommended for heart failure patient is 2-3mg per day.

One of the major symptoms of heart failure is oedema which happens because of fluid accumulation in the body hence fluid intake must be restricted to 2 litres per day which includes all the fluid consumption along with water.

In order to manage this the patients are provided 1Mg salt sachets and calibrated water bottles.

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