

WHAT TO TEACH TO PATIENTS WITH HEART FAILURE AND WHY: THE ROLE OF NURSES IN HEART FAILURE CLINICS

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The most important objective of heart failure (HF) treatment is to reach and preserve patients' clinical stability. Several studies have shown that programs aimed at systematic education, developed by multidisciplinary teams, are positive strategies to work with these patients. Nurses active in HF clinics play a fundamental role in the educational process and continuity of patient care. The objectives of these processes are to teach, reinforce, improve and constantly evaluate patients' self-care abilities, which include weight monitoring, sodium and fluid restrictions, physical activities, regular medication use, monitoring signs and symptoms of disease worsening and early search for medical care. Therefore, education to understand HF and the development of self-care abilities are considered key points to improve adherence, avoid decompensation crises and, consequently, to maintain patients clinically stable. This article presents a careful review of the aspects involved in the patient education process by nurses in the context of HF clinics.

DESCRIPTORS: heart failure; nursing; education; self-care

¿QUÉ ENSEÑAR A LOS PACIENTES CON INSUFICIENCIA CARDÍACA Y POR QUÉ?: EL PAPEL DE LOS ENFERMEROS EN CLÍNICAS DE INSUFICIENCIA CARDÍACA

El principal objetivo del tratamiento de la insuficiencia cardíaca (IC) consiste en obtener y mantener la estabilidad clínica del paciente. Varios estudios demostraron que programas de educación sistemática, desarrollados por equipos multidisciplinarios, son estrategias positivas para estos pacientes. Enfermeras que trabajan en clínicas de IC tienen un papel fundamental en la educación y apoyo de los pacientes. Los objetivos del proceso son enseñar, reforzar, mejorar y evaluar constantemente la capacidad de autoayuda, que incluye el control de peso, restricciones al consumo de sodio y líquidos, actividades físicas, el uso adecuado de medicamentos, la observación de señales y síntomas de agravamiento de la enfermedad y la búsqueda precoz de los servicios médicos. Los puntos principales para promover el mejor cumplimiento de la terapia y evitar crisis de descompensación serían entonces la educación para el manejo de la enfermedad y el desarrollo de la capacidad de autoayuda. En este artículo revisaremos en detalle aspectos de la educación para pacientes con insuficiencia cardíaca dada por enfermeros.

DESCRIPTORES: insuficiencia cardíaca; enfermería; educación; autoayuda

O QUE ENSINAR AOS PACIENTES COM INSUFICIÊNCIA CARDÍACA E POR QUÊ: O PAPEL DOS ENFERMEIROS EM CLÍNICAS DE INSUFICIÊNCIA CARDÍACA

O principal objetivo do tratamento da insuficiência cardíaca (IC) consiste em alcançar e manter a estabilidade clínica dos pacientes. Vários estudos demonstram que programas multidisciplinares para educação sistemática sobre a doença são estratégias positivas para estes pacientes. Enfermeiros engajados em clínicas de IC desempenham papel fundamental no processo de educação e acompanhamento dos pacientes. Os objetivos deste processo são ensinar, reforçar, melhorar e avaliar constantemente as habilidades dos pacientes para o autocuidado, que incluem a monitorização do peso, a restrição de sódio e de líquidos, a realização de atividade física, o uso regular das medicações, a monitorização de sinais e de sintomas de piora da doença e o contato precoce com a equipe assistencial. Desta forma, a educação para o entendimento da IC, e o desenvolvimento de habilidades para o autocuidado, são considerados chaves para melhorar a adesão, evitar crises de descompensação e consequentemente manter a estabilidade clínica dos pacientes. Neste artigo nos revisamos detalhadamente os aspectos envolvidos no processo de educação dispensados aos pacientes por enfermeiros no contexto das clínicas de IC.

DESCRITORES: insuficiência cardíaca; enfermagem; educação; autocuidado

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INTRODUCTION

Heart failure (HF) is a syndrome which imposes marked functional limitation, impairing importantly in patients' quality of life. Its prevalence worldwide approaches 1 to 2%. In spite of several important advances in HF therapy, derived from better physiopathological understanding, hospital admissions rate continued to increase in the last decade⁽¹⁾. Among the most important causes of hospital admissions, decompensation episodes are dominant, caused mostly by poor adherence to treatment, both pharmacologic and non-pharmacologic⁽¹⁻⁴⁾. Some studies indicate that these aspects respond for 15 up to 64% of hospital readmissions⁽⁵⁾. Within this unfavorable scenario, one the objectives of HF management is to reach and maintain clinical stability of patients, which is based on a fairly complex therapeutic regimen. In this review article, we discuss in details why and ways to approach patients and their families regarding educational aspects in HF to better cope with the burden of the disease. We searched MEDLINE and BIREME for articles containing the term heart failure, nursing education and self-care that were published between 1988 and 2005.

HF SYNDROME AND CLINICAL ASPECTS

It is important to emphasise that HF is a chronic and progressive syndrome, in which adjustments and modifications in lifestyle are very important. Many patients consider themselves healthy and show little adherence to orientations given by the medical team until they present the first HF decompensation episode. The initial approach with a HF patient should not include all of the aspects regarding the complexity of HF treatment. Nurses must have the ability to evaluate individual needs of each patient and proceed with the education method based on his/her previous level of knowledge about the disease, on his/her school level and also on cognitive functions^(3, 5). It is conventionally assumed that when patients learn about their disease they understand it better and, in consequence, are more adherent. At times, however, there remains lack of understanding between what is taught about self-care and what is absorbed or retained by the patients; even when there is supposedly a better knowledge of the disease, which not necessarily means better adherence⁽⁵⁾. The

orientations must, therefore, be given repeatedly and positively reinforced. Nurses, physicians, nutritionists as well as other members of the multidisciplinary team play important roles on the education of HF patients. There are several tools to provide better understanding of HF aspects to patient. It is possible to design specific strategies to obtain better outcomes regarding patient education in HF^(1,3,6-7).

Risk factors predictive of hospitalization and readmission due to HF include poor knowledge and adherence to the recommendations for self-care, involving restriction of fluid intake, restriction of sodium intake in the diet, daily weight monitoring, physical activity and the regular use of medications^(1,3). Within this context, a study with 113 ambulatory patients in a HF clinic, detecting failures in relation to what was taught to the patients and what they really understood and apply in their daily life. The poor adherence was also related to little knowledge of the disease and self-care principles, to living alone and to the fact that patients had not had previous hospitalization due to decompensated HF⁽⁵⁾.

DAILY WEIGHT MONITORING

The orientation of the HF patient about the home control of the daily weight has an important role on the identification of hypervolemia signs⁽⁸⁾. Patients must be instructed to check their weight in the morning after urinating and before breakfast, wearing light clothes and using the same scale. An increase of 1.3 kg in body weight in two days, or of 1.3 - 2.2 Kg in one week, may indicate fluid retention⁽⁹⁾. A recent multicentric randomized study with patients class III or IV of the New York Health Association investigated whether a technologic system for daily monitoring of weight and symptoms could reduce hospitalizations (primary outcome), mortality or to improve life quality (secondary outcomes). Although no differences in rehospitalization rates were detected, the study showed a significant decrease in mortality in 6 months in the intervention group⁽⁸⁾.

Available data, however, indicate that it is difficult for patients to correlate a sudden increase in weight with HF worsening⁽¹⁰⁾. Adherence to instructions about weight monitoring vary in the literature from 12⁽¹¹⁾ to 75%⁽¹²⁾. According to national and international guidelines⁽¹³⁻¹⁴⁾, patients are advised to monitor weight daily and, in the event of a sudden weight increase,

to contact the medical team or adjust the diuretic dose. The adjustment of the diuretic dose for HF patients by nurses through structured protocols has been recommended in the literature. The employment of these protocols has resulted in 90% adherence by the patients and a 50% reduction in the rehospitalization rate due to decompensated HF⁽⁶⁾. It is important to point out that the flexibility of the use of these medications depends on the self-care ability of the patient, as well as on the organization of the medical service, since there is need of constant monitoring and follow-up.

MONITORING DECOMPENSATION SIGNS AND SYMPTOMS

Literature data show that HF patients tolerate some symptoms such as edema, weight gain and fatigue for 7 days, and dyspnea for 3 days, before seeking for medical care, and only 5% of the patients associate weight gain with hospitalization⁽³⁾. Within this context, nursing intervention must focus on the education of patients and their families for the early recognition of these signs and symptoms, avoiding decompensation episodes.

EDUCATION FOR THE USE OF MEDICATION

Drugs employed in the treatment of most HF patients are based on guidelines recommendations from American Heart Association and Brazilian Society of Cardiology, using combination of five main drug types: diuretic, angiotensin-converting enzyme inhibitors, beta blockers, espirolactone and digitalis⁽¹³⁻¹⁴⁾. The amount of medication employed, the maintenance of the therapeutic regimen, and the number of daily doses are factors of great influence on adherence to treatment. The larger the amount of drugs, number of doses and changes in the therapeutic regimen, the greater are the probabilities that the patient will stop using them, with a consequent increase in the decompensation risk⁽³⁾. A recent review showed that adherence to medication varies between 20 to 58%⁽¹⁵⁾. The systematic education of the patient has thus been shown as the key component in the search for a better adhesion to HF treatment^(1,3,5).

The medication regimen must be reviewed with the patient and presented to him in a schematic way,

with emphasis on the medication names, indications, doses, schedules and possible side effects⁽³⁾. A simple strategy, which has been employed for several years by our group, involves the drawing of a table with the name and time of medications, which is placed in a site easily seen by the patient and relatives. The patients must be advised to always take their medication, even when they feel well, since that is a consequence of an efficient treatment. The nurse's role is to instruct the patient to bring the table or the prescriptions to every appointment in the HF clinic or when readmission is necessary, since it makes easier to identify possible omissions, dose increase or confusion.

PHYSICAL ACTIVITY AND REST

The increasing knowledge on the physiopathology of the disease, and the evident benefits of physical activity observed in clinical studies, established an important therapeutic role for physical exercise on the stable chronic cardiac dysfunction. HF results in fatigue symptoms and progressive dyspnea at stress or rest which is frequently the main reason for seeking urgent medical help.

In 1999, a first randomized study with 99 HF stable patients distributed in intervention (with exercise) and control (without exercise) groups, assessed if moderate long-term exercise would increase functional ability and life quality. Both parameters showed significant improvement in trained patients after 14 months follow-up. The sustained effect of functional improvement seems to be associated to a low rehospitalization rate due to HF and a lower death rate⁽¹⁶⁾. Presently, physical activity for patients with left ventricular dysfunction with previous or current symptoms (stage C) receives guidelines recommendation grade IIa and evidence level A⁽¹⁴⁾.

ORIENTATIONS FOR PHYSICAL ACTIVITY

The orientation should be individualized according to the HF grade and patient age⁽¹³⁾. A home-based walking program is the best option to avoid the negative physiological and psychological consequences of inactivity. The walked distance should be gradually increased, if possible^(3,13).

This orientation is one of the non-pharmacological important, and frequently neglected,

measures for HF treatment and should always be included in nursing consultations. In spite of its well established importance and frequent recommendation, literature reports show that physical activity is not performed by 41 - 58% of the patients^(5,10).

Rest - Physical activity was considered, until the 1980's, relatively or absolutely contra-indicated for individuals with increased cardiac area, decreased left ventricular systolic function and HF⁽¹⁷⁾. Stable patients were advised to avoid physical activity in order to preserve cardiac function. In a study published in 2001, 30% of the patients were shown to have stopped physical exercise after having HF diagnosed⁽¹⁰⁾. This finding may be an evidence that the old concept is still valid for many patients. Rest was considered beneficial for increasing renal blood flow and improving urinary debt⁽¹⁷⁾. Prolonged rest or inactivity, however, may cause atrophy of the skeletal musculature, exacerbation of HF symptoms, thromboembolism and decreased exercise tolerance^(14,17). Rest is presently indicated only in episodes of acute decompensation, and even then according to each patient's limitation⁽¹³⁻¹⁴⁾.

WORK

The guidelines for the diagnostics and treatment of HF recommend working activities which do not demand great efforts, and the definitive retirement is restricted to severe HF cases⁽¹³⁻¹⁴⁾.

DAILY PHYSICAL TRAINING

Exercise intolerance, dependent on the disease severity, may be one of the limiting factors for daily life activities. The patient is advised to identify the presence or absence of fatigue and shortness of breath when doing daily chores and, from then on, to monitor the improvement or aggravation of the symptoms. Many of the patients report carrying out daily chores slowly and without much effort⁽¹³⁻¹⁴⁾.

SEXUAL ACTIVITY

Stable patients are encouraged to keep sexual activity, with the necessary adjustments to avoid excess effort and the appearance of symptoms⁽¹⁴⁾.

The subject should be approached by the multidisciplinary team in a natural and informative way during the first consultation and whenever the patient presents questions or difficulties. Psychological symptoms derived from the HF, physical limitation, side effects of drugs (diuretic and betablockers), presence of diabetes mellitus, and hypertension are some of the factors which can be involved with erectile dysfunction. Class I and II patients can make safe use of sildenafil, but must be informed that, when using nitrates, sildenafil can be used only 24 h after its interruption⁽¹³⁻¹⁴⁾.

DIET AND SOCIAL ACTIVITIES

Sodium restriction - A recent study⁽¹⁸⁾ with a 19-years follow-up showed the correlation between a diet with no sodium restriction and the incidence of HF. This cross-over epidemiologic study included 10362 individuals with no HF history and with normal weight or overweighted. The results indicated that high sodium consumption is an independent risk factor for HF and left ventricular hypertrophy in overweighted individuals (BMI =25). In spite of these conclusions, there is no consensus about the validity of a strict sodium restriction for HF patients. Sodium (salt) ingestion among the Brazilian population is in average around 8 to 12 g/day, which is over five-fold the daily needs⁽¹³⁾. Sodium restriction levels = 2g/day should be prescribed for patients with severe HF⁽¹³⁻¹⁴⁾ whereas a diet with 3-4 g sodium/day is a more reasonable and realistic goal for patients with mild and moderate HF⁽¹³⁾.

The present consensus, however, is to recommend that the patients be instructed not to add salt to already prepared food and to avoid industrialized and canned food which are rich in sodium. A recent review⁽³⁾ showed a non-adherence rate to sodium restriction of 50 to 88%. Self-care adherence, including diet restriction, was again significantly correlated to knowledge.

Fluid restriction in severe HF - Fluid restriction in HF seems to be less frequent in clinical practice due to a still limited level of scientific evidence. In daily practice, the maximum amount of 1.5 L/day is recommended to patients with moderate to severe HF; in national⁽¹³⁾ and international⁽¹⁴⁾ guidelines, however, the amount to be prescribed is not mentioned⁽¹⁹⁾. The lack of adhesion to prescription of

control of ingested fluids may also be explained by the greater interference in the autonomy and life quality of the patient represented by this measure (differently from salt restriction and drug prescription, which are better established as part of the treatment). Fluid restriction frequently originates thirst, which is one of the less well tolerated symptoms for moderate to severe HF⁽¹⁹⁾. Many believe that the rate of fluid intake should be left free according to the patient needs, with the avoidance however of excess or insufficient consumption. In severe HF cases, in which the concentration of circulating antidiuretic hormone can be increased and the capacity to eliminate water can be compromised, fluid restriction is recommended in order to avoid plasma sodium to fall to levels below 130 mEq/L⁽¹³⁾. A European study reported the design of a randomized, cross-over and prospective study in which the control group is instructed to comply with a maximum fluid intake of 1.500 mL, and the intervention group has individualized fluid intake of 30-35 mL/kg/day. The authors believe that fluid intake based on physiological needs corrects the feelings of dry mouth and thirst, saving the patient from another source of stress in the non-pharmacological treatment⁽¹⁹⁾. Amongst our ambulatory patients, 56% had never been instructed about fluid restriction⁽²⁰⁾ whereas literature results show that adherence to the control of fluid intake is 23%⁽²¹⁾.

Alcohol and tobacco use - According to the recommendations of American and Brazilian associations, the excessive use of alcoholic drinks and tobacco should be avoided in view of their negative effects on the cardiovascular system⁽¹³⁻¹⁴⁾. Non-adherence to the tobacco and alcohol restriction was significantly associated to the number of hospital admissions due to HF in a study published in 2000⁽²²⁾. Alcohol reduces myocardial contractility and may cause arrhythmias⁽¹³⁻¹⁴⁾.

Vaccination - Annual immunization against influenza must be recommended to all HF patients,

according to national and international guidelines⁽¹³⁻¹⁴⁾. Immunization reduces the risk of respiratory infections, preventing thus episodes of disease decompensation. In 2002 a study showed that adherence to vaccination was 68% among patients, with higher adherence rates among elders and women⁽²³⁾.

CONCLUSIONS

Self-care education, including the control of non-pharmacological measures, should be part of the daily management of HF patients at both hospital and ambulatory settings. HF patients in the hospital environment represent the best situation to start the educational process and training of the patient and their caregivers, using the impact represented by the admission to the hospital and by the symptoms of decompensation to establish the adherence to the treatment. The days following recovery are particularly useful to the adaptation of the patients and their families to the understanding and assessment of these measures for maintenance of the clinical stability. The early planning of the hospital leave, which includes daily visits to evaluate and reinforce adherence, give the patients and their family support, and emphasise the recognition of signs and symptoms of worsening, is an approach which can be successfully employed to reach those objectives.

Finally, nurses at HF clinics together with the other professionals integrating the multidisciplinary team have a fundamental role in the follow-up and management of patients. This approach aims at the permanent training, reinforcement, improvement and evaluation of self-care abilities, which include weight monitoring, sodium and fluid restriction, physical activities, regular use of medications, monitoring of signs and symptoms of worsening and the early seeking of medical help.

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