

Instructional instrument of the NOC outcomes: control knowledge of cardiac disease for patients with heart failure

Instrumento instrucional do resultado NOC: conhecimento controle da doença cardíaca para portadores de insuficiência cardíaca

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ABSTRACT

Heart failure (HF) is a disease that presents high levels of re-hospitalizations, in some situations caused by deficient knowledge of patients regarding the control and self-management of the disease. This study aimed to elaborate and validate the content of an instructional instrument to assess the indicators of the NOC outcome Cardiac Disease Knowledge for patients with heart failure. A content validation was conducted by the analysis of six cardiology experts, and the agreement between them was assessed by the Kappa statistic. The obtained Kappa agreement level was superior to 98% for all assessed criteria, therefore the instrument was considered valid for content. This study is fundamental for the clinical practice of nurses, as it can guide the nursing assessment for knowledge of patients with HF.

Descriptors: Heart Failure; Education, Nursing; Nursing Assessment.

RESUMO

A insuficiência cardíaca (IC) é uma doença que apresenta altos índices de re-hospitalizações, ocasionadas em algumas situações pelo conhecimento deficiente dos portadores quanto ao controle e autogestão desta doença. Esse trabalho teve como objetivo elaborar e validar o conteúdo de um instrumento instrucional de avaliação dos indicadores do resultado NOC Conhecimento da Doença Cardíaca para pacientes com insuficiência cardíaca. Foi realizado a validação de conteúdo pela análise de seis experts na área de Cardiologia, sendo avaliado a concordância dos mesmos pelo teste de Kappa. Obteve-se o nível de concordância Kappa superior a 98% em todos os critérios avaliados, portanto foi considerado o instrumento como validado no conteúdo. Este estudo é fundamental para a prática clínica dos enfermeiros, pois poderá nortear a avaliação do enfermeiro no conhecimento do paciente com IC.

Descritores: Insuficiência Cardíaca; Educação em Enfermagem; Avaliação em Enfermagem.

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INTRODUCTION

Heart Failure (HR) is a complex clinical syndrome with an etiology of structural or functional cardiac disorders that harm the capacity of ventricles to fill or eject blood. This syndrome have been considered a public health problem due to its world prevalence of 1 to 2% on the past three decades⁽¹⁻²⁾.

The causes for hospitalization of patients with Heart Failure are generally associated with inadequate self-care, implicating on the not adherence to the pharmacological and non-pharmacological treatments, caused by therapeutic complexity, cost of treatment, side effects of medications and prolonged treatment without possibility of cure⁽³⁻⁶⁾.

The literature is clear when it mentions that one of the important factors that can be associated to the rehospitalization is the lack of familiarity with information resources reflecting on the knowledge deficit of the patient regarding the disease. This related factor is found in the nursing diagnosis (ND) Deficient Taxonomy Knowledge from NANDA- $I_{\rm c}^{(7-8)}$.

Considering the nursing diagnosis, Deficient Knowledge in this population, we understand the need to assess this knowledge through specific instruments for the HF patient that can be conducted by the nursing outcome found on the Nursing Outcomes Classification (NOC): the knowledge of Control of Cardiac Disease. It is defined by the patient's comprehension, as well as their caregivers and family about this heart disease and the prevention of its complications⁽⁷⁾, but to use these indicators we believe that it is necessary an instructional instrument to assess it, aiming uniformity of the assessment of these indicators by nurses in the clinical practice⁽⁸⁻⁹⁾.

Thus, this study objective is to elaborate and validate an instructional instrument to assist the assessment of indicators of the NOC outcome: Control of the Heart Disease for patients with HF.

METHOD

A descriptive study with quantitative approach, to validate the content of an instructional instrument based on the indicators of the NOC outcome: Control of the Heart Disease for patients with HF.

Initially, a literature search was conducted about congestive heart failure englobing cause, signs and symptoms, treatment and life habits that can cause disease decompensation.

The searched databases are the National Library of Medicine (PUBMED), International Literature in Health Sciences (MEDLINE), Latin-American and Caribbean Literature in Health Sciences (LILACS), and Scientific Electronic Library Online (SciELO). The following descriptors were used: heart failure, nursing education and nursing. The review included the period of 2009 to 2015, including studies published in Portuguese and English.

From the literature review and based on the researchers' clinical experience, some indicators of the NOC outcome in question were selected: usual course of the disease process, disease signs and symptoms, signs and symptoms of the disease worsening, strategies to increase the diet adherence, strategies to limit sodium ingestion, strategies to limit liquid ingestion, recommended level of activity, importance of tobacco abstinence, importance of alcohol restriction, justification to monitor weight, therapeutic effects of medications, when to obtain professional health assistance, importance to obtain cold and pneumonia vaccines, role of caregivers and family in the treatment plan.

After selecting the indicators, an instructional instrument with 24 closed questions was elaborated to help assessing these indicators, and some questions were formulated to help assessing more than one indicator.

After the approval of this study by the Ethics in Research of the Universidade Federal de São Paulo (protocol n° 0782/10), it was given for content validation of the instructional instrument to six assessors considered "experts", following the criteria of Quatrini and Barros⁽¹⁰⁾.

Two assessors were classified as master experts and four as senior experts, and the nurses classified as junior experts, were excluded as assessors for this study.

For each question in the instrument, it was requested that experts judged the agreement or disagreement regarding the content relevance; content specificity; content coherence; clarity of questions; language adequacy of questions, and at the end, it was also requested that experts signaled the agreement or not in relation to: the extension of the instrument and the sequence of questions, and they should also comment regarding each question, even in cases where there was no disagreement about them.

Based on the answers of the six experts, a descriptive analysis was conducted, intended to observe in which questions and aspects there were higher frequency of agreement and/or disagreement. These data offered a direction to conduct a quantitative assessment of each question in relation to the criteria previously cited. After analysis, results were obtained about the agreement through the Kappa statistic (K), and it was considered valid when the level of each criterion assessed obtained K higher or equal 0.8.

Below (Figure 1) follows the methodological path of the study:

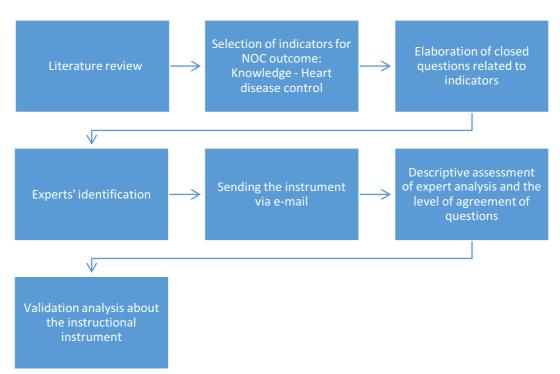


Figure 1: Steps of the methodological path of the study. São Paulo, SP, Brazil, 2010.

RESULTS

The instructional instrument elaborated to assess the indicators of the NOC outcome "Knowledge: Heart Disease Control", approached themes as: signs, signs and decompensation symptoms of the disease and, recommendations for self-care involving restriction of liquids and salt in the diet, daily weight monitoring, physical activity and the regular use of medications that are predictive risk factors for hospitalizations and readmission of patients with HF⁽¹⁻²⁾.

Six "experts" clinically experienced in care for patients with HF, assessed the instructional instrument. There were analyses of relevance, specificity, content coherence, sequence of questions and extension of the instrument, and 100% of agreement among judges, bringing to a Kappa level of agreement of 1.

Regarding clarity of questions, it was obtained 98% of agreement, giving a Kappa value of 0.98 and language adequacy of questions of 99% in agreement with the K value of 0.99, according to Figure 2.

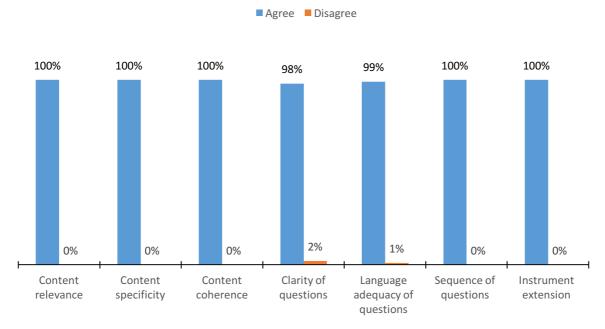


Figure 2: Distribution of results in percentages of agreement from experts, after content analysis of questions of the instructional instrument. São Paulo, SP, Brazil, 2010.

The questions presenting disagreement or even some suggestions were considered after analysis of researchers and those were concentrated especially on word substitutions and HF definition. The solicitations of two judges were not totally considered, regarding the description of the type of food with high content of fat and sodium, as it was understood that beyond extension imposed to the instrument, its intention was not to do a food diary and yes to assess if the HF patient recognizes food that enhances decompensation.

DISCUSSION

To identify the knowledge of patients is the first step for the teaching-learning process to be effective, and this assessment needs to be performed by the nurse, so that it is identified what the patient understands from his disease and what are their actions to self-manage it⁽¹¹⁻¹²⁾.

Studies point that predictive risk factors for hospitalization and re-admission of patients with HF include little knowledge about the signs and symptoms of disease decompensation and low adherence to self-care recommendations, that involve restriction of liquids and salt in the diet, daily weight monitoring, physical activity and the regular use of medications^(1-2,7,13).

In this context, nursing interventions should be focused on the education of patients and family members to recognize signs and symptoms earlier, avoiding situations of decompensation⁽¹⁴⁻¹⁶⁾.

In general, it was assumed that when patients receive information about their disease, they become more knowledgeable and thus, become more adherent to the treatment. It is necessary to know how much the patient knows and how much it was learned from the offered information to learn and supply its knowledge deficit in an individualized way. This justifies the need of an instrument to systematically assess patient's knowledge, besides allowing comparisons in repetitive assessments⁽¹⁷⁾.

Thus, an instrument was developed to help the assessment of knowledge for patients with HF, based on results to be achieved. The elaborated instrument obtained the mean 99% of agreement with a Kappa value of 0.99, and all suggestions cited by judges were partially accepted, because in majority it did not change the essence of the question and, yes, better suited the question regarding the understanding of the population. The clarity of question, as well as, the adequacy of language is indispensable, as only with a clear question,

and with a comprehensive language, it can be secured that the patient really understood the question made.

The questions in the instrument were pooled according with the indicators of Knowledge Outcome: Control of Heart Disease from the of Nursing Outcome Classification (NOC), once indicators define that patients with HF should know how to control their disease. The instrument items are following described, in accordance with the respective indicators of the study outcome ⁽⁹⁾.

The indicator, Description of the natural course of the disease was presented by questions addressing the disease description, as HF is a difficult pathology for clinical management, even with the effective collaboration of patients, demonstrating how necessary it is to adequately guide the patient and his rigorous accompaniment after diagnosis⁽²⁾.

In the indicators description of strategies to increase diet adherence, identification of strategies to limit sodium ingestion, description of strategies to limit liquid ingestion, importance to conduct a cardiac rehabilitation program, description of the importance to abstain tobacco, importance of alcohol restriction and explanation of reasons to monitor weight; questions were elaborated and validated related to the importance of weight control, influence in the quantity of ingested liquids, knowledge about food rich in fat, importance of physical activity, importance of tobacco abstinence, and about alcohol consumption. These questions are connected to the main causes of low adherence to the HF non-pharmacological treatment, therefore, it is needed to assess the knowledge of these patients regarding these factors (18).

The weekly weight control is less performed by individuals as they do not relate the sudden weight increase with the HF volume decompensation and yes with the increase of body mass. The suggested ingestion is one to 1.5 liters in symptomatic patients with hypervolemia, but the guidance regarding the hydric restriction should be in accordance with the clinical

condition of the patient and should consider the doses of diuretics by the physician $^{(4,19)}$.

What relates to questions about weight control and the influence of the quantity of ingested water, are the indicators Explanation of reasons to monitor weight and Description of strategies to limit liquid ingestion, respectively.

The indicator and the question related to sodium ingestion are important for the HF non-pharmacological treatment, once even in patients without clinical signs of congestion, it was verified that a diet rich in sodium contributes to increase of the left ventricular cavity. Besides that, the ingestion of high levels of sodium was already demonstrated to be an independent risk factor for the development of HF in obese patients⁽¹³⁾, that justifies the orientation of 2g to 3g/day, especially during the most advanced stages of the disease⁽⁴⁾.

According to the Brazilian Guideline of Chronic Heart Failure, the patient with HR should ingest protein calories to satisfy his needs, adequately to his comorbidities, because the excess of energy substrates obtained from hyper caloric or nutritionally unbalanced diets can contribute to the development and progression of HF in certain situations⁽¹¹⁾.

The recommended level of activity was also addressed in the instrument, as studies point that patients with HF should be stimulated to be physically active with an individualized program, according to the patient diagnosis and clinical situation⁽²⁰⁾.

The indicators importance of tobacco abstention and importance of alcohol restriction were contemplated in the instrument, once the excessive use of alcoholic beverages and smoking should be discouraged due to its negative effects on the cardiovascular system. Smoking increases the risk of total cardiovascular disease, as well as pulmonary infection. Therefore, patients with HR should be stimulated to abandon passive and active tobacco use. There is a need of complete alcohol abstinence, especially for patients with alcoholic

cardiomyopathy, as it can cause myocardial depression and precipitate arrhythmias⁽²¹⁻²²⁾.

The questions related to the description of drug's therapeutic effects are related to patient's knowledge about the drugs used and its effects, considering that patients improve self-management of signs and progression symptoms of the disease when knowing the drugs and its effects, as patients with HF present a high quantity of medications and frequency, directly influencing the treatment withdraw⁽²³⁾.

Questions of the indicator related to description of when to look for health services relates to the need of the patient to acknowledge earlier the signs and symptoms of clinical worsening and look to health services.

One factor frequently forgotten is the prevention of the respiratory infection through vaccination against pneumococcus and influenza virus. The vaccination aims to avoid pneumonia, that in many cases is caused by the HF decompensation, therefore a question related to the importance of this kind of vaccine was elaborated related to the indicator description of the importance of flu vaccine (24).

Another predictor identified on literature was the poor adherence was related to little knowledge of patients about the disease and self-care, and to the fact that they lived alone, without the presence of a caregiver of family member to help them. Thus, it was asked about the importance of the caregiver/family member presence during treatment and appointments, which is related to the indicator description of the caregiver and family role in the treatment plan⁽²⁵⁾.

The patient's education is considered one of the main care components and nurses perform it, once it is essential for the patient to prepare to assume self-care responsibility.

Thus, through the knowledge assessment of HF patients about their disease, manifestations, and triggering factors for improvement or worsening, changes of life habits and acquisition of new habits, it will result in specific nursing interventions. Thus, success will be reached when the main thought become assimilated by patients, that is, the understanding that the prevention or early detection of the decompensation can avoid hospitalizations⁽⁵⁾.

CONCLUSION

The instructional instrument to assess the indicators of the NOC knowledge outcome: Control of the Heart Disease for patients with HF (Appendix A) obtained level of agreement higher than 98% in all criteria assessed and the suggested modifications were done by "experts", therefore, being considerate valid.

The development of this content validation of an instructional instrument will allow the nurse to standardize the assessment of knowledge indicators of patients for HF control. Besides, it allows the assessment of which indicators deserve more attention in the health education process aiming to improve the disease understanding, improvement of therapeutic adherence and, consequently, reduction of prevalence and incidence rates of hospitalization due to HF decompensation.

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Appendix A

Item I - Indic	cador da NOC:	Descrição do	o curso natura	l da doença.
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I.1.1) Das	s Doenças aba	ko qual o senhor o Sr. (a) já teve ou considera ter?	
	ra na parede o		
() HAS -	Há quanto ten	po?	
		00?	
		lá quanto tempo?	
() IAM -	Quantos?	Há quanto tempo?	
() Doenç	a de Válvula		
Outras: _			
		ue sua doença, a ICC (coração grande, inchado), seja uma doença crônica, ou seja, i	necessita de
		o, longo e duradouro?	
() Sim	() Não	() Não sei	
I.1.3) A s	ua doença (ICC) limita suas atividades diárias, tais como cuidar da casa (varrer, lavar os pratos, arru	ımar a cama
e etc),	dificulta o seu	trabalho, o seu repouso?	
()Sim	() Não	() Não sei	
ltem II - I	Indicador da N	OC: Descrição dos sintomas da Doença.	
II.1.1) O :	Sr. (a) acredita	que a sensação de falta de ar durante atividades domésticas, caminhadas, ao subir	r escadas ou
		e esforço tem relação com a sua doença, a ICC?	
()Sim	() Não	() Não sei	
II.1.2) O	Sr.(a) acredita	que ao sentir uma dificuldade de respirar repentina após deitar-se para dormir é	um sinal de
	ação da sua do		
()Sim	() Não	() Não sei	
II 1 3) Oı	iando o Sr (a)	e sente cansado e/ou fraco, o Sr. (a) acredita que esses sintomas seja um sinal de m	nanifestação
	pença, a ICC?		.a.m.cota.şa.o
()Sim	() Não	() Não sei	
	Sr.(a) acredita	que a diminuição da quantidade de urina durante o dia é uma manifestação da su	ia doença, a
ICC?	()	(1)	
()Sim	() Não	() Não sei	
II.1.5) Ao	apresentar in	chaço nas pernas, o Sr. (a) acredita que seja um sinal de manifestação da sua doenç	a, a ICC?
()Sim	() Não	() Não sei	
ltom III	Indiandans d	a NOC: Descrição de estratégias para aumentar a adesão à dieta / Identificação de	octrotáni
nem III -	muicadores d	i ivoc. Descrição de estrategias para admentar a adesão a dieta / identificação de	estrategias

Item III - Indicadores da NOC: Descrição de estratégias para aumentar a adesão à dieta / Identificação de estratégias para limitar ingestão de sódio / Descrição de estratégias para limitar ingestão de líquidos / Descrição da importância da abstinência do tabaco / Importância da restrição do álcool / Explanação das razões para monitorar o peso.

III.1.1) O Sr. (a) acredita que verificar o peso uma vez por semana auxilia no tratamento da sua doença, a ICC? ()Sim () Não () Não sei

alimentos	salgados prop	que diminuindo a quantidade de sal nos temperos dos alimentos e diminuir o consumo de riamente dito, favorece o tratamento da sua doença, a ICC?
()Sim	() Não	() Não sei
	Sr.(a) acredita o da sua doen	que reduzir o consumo de alimentos ricos em gordura saturada e colesterol favorece o ça, a ICC?
()Sim	() Não	() Não sei
	.(a) acredita q nto da sua doe	que beber uma menor quantidade de água durante o dia, ou a quantidade recomedada favorece ença, a ICC?
()Sim	() Não	() Não sei
III.1.5) O S	r.(a) acredita	que realizar exercícios físicos regulares, como exemplo uma caminhada durante 30 minutos,
três vezes ¡	por semana, r	espeitando suas limitações, favorece o tratamento da sua doença, a ICC?
()Sim	() Não	() Não sei
III.1.6) O S	r.(a) acredita	que parar de fumar favorece o tratamento da sua doença, a ICC?
()Sim	() Não	() Não sei
III.1.7) O Sr	r.(a) acredita d	que suspender o consumo de bebidas alcoólicas, favorece o tratamento da sua doença, a ICC?
()Sim	() Não	() Não sei
Item IV - In	ndicador da N	OC: Descrição dos efeitos terapêuticos dos medicamentos
IV.1.1) Qua	ais os nomes (dos medicamentos que o Sr.(a) faz uso para o tratamento da sua doença, a ICC?
()Sim	() Não	() Não sei
Se SIM, qua	ais são?	
() Furosem	nida	
() Hidroclo	rotiazida / Hi	dralazina
() Captopr	il / Enalapril	
() Atenolo	l / Propanolol	
	olol / Carvedil	ol
() Digoxina		
() Espirono	olactona	
Outros		
		que aumentar a força do coração é um dos efeitos esperados dentre as medicações utilizadas
		a doença, a ICC?
()Sim	() Não	() Não sei
		que diminuir o inchaço das pernas é um dos efeitos esperados das medicações utilizadas para
	nto da sua doe	
()Sim	() Não	() Não sei
IV.1.4) O S estável?	r. Acredita qu	ue os medicamentos prescritos para o tratamento da sua doença, a ICC, mantém a pressão
()Sim	() Não	() Não sei
IV.1.5) O S	r. (a) acredita	a que ao fazer uso de todos os medicamentos na dosagem e horário prescritos, favorece o

 $Rev.\ Eletr.\ Enf.\ [Internet].\ 2015\ oct/dec; 17(4).\ Available\ from: \\ \underline{http://dx.doi.org/10.5216/ree.v17i4.26530}.$

tratamento da sua doença, a ICC?

()Sim	() Não	() Não sei
Item V - Ind	icador da NOC	: Descrição de quando procurar o serviço de saúde.
		e procurar o serviço de saúde no início do aparecimento dos sintomas , tais como falta de ar ia, diminuição da quantidade de urina, previne o agravamento da ICC? () Não sei
	(a) acredita qu nto da sua doe	e frequentar o serviço de saúde de acordo com a sua consulta agendada, controla e previne nça, a ICC?
()Sim	() Não	() Não sei
Item VI - Inc	dicador da NOC	C: Descrição da importância da vacina da gripe.
		e a vacinação contra a gripe (Influenza) e a vacina Pneumocócica reduzem o risco de infecções se, resfriado, pneumonia, previne o agravamento da sua doença?
()Sim	() Não	() Não sei
Item VII - In	dicador da NO	C: Descrição do papel dos cuidadores e da família no plano de tratamento.
VII.1.1) O Sr da sua doen	-	a presença de um cuidador e/ou familiar que sabe sobre a sua doença, favorece o tratamento
()Sim	() Não	() Não sei