

Scale for supported care in primary care: a methodological study

Escala para o cuidado apoiado na atenção primária: um estudo metodológico
Escala para el cuidado apoyado en la atención primaria: un estudio metodológico

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ABSTRACT

Objective: To elaborate a predictive scale for determining complications in adults with hypertension and actions for care supported in the primary care.

Method: Methodological research carried out in the city of Curitiba-PR in 2013 and 2014, divided in two steps. The first one was made through data collection with 387 adults with hypertension, by means of a structured interview and anxiety scales, depression, life quality, medication adherence and social support. The second step was the construction of the scale from statistically significant variables after the multivariate analysis.

Results: The scale consisted of the variables: age, sex, smoking, time of diagnosis, classification of risk in the health unit, use of medications and depression. Later, through literature review, actions were suggested for supported self-care.

Conclusion: The scale enables identification of factors that may predict the development of complications of hypertension and provides actions for supported care.

Keywords: Chronic disease. Adult health. Hypertension. Nursing care.

RESUMO

Objetivo: Elaborar uma escala preditiva de determinantes para complicações em adultos com hipertensão e ações para o autocuidado apoiado na atenção primária.

Métodos: Pesquisa metodológica realizada no município de Curitiba-PR em 2013 e 2014, em duas etapas. A primeira foi feita mediante coleta de dados com 387 adultos com hipertensão, por meio de uma entrevista estruturada e escalas de ansiedade, depressão, qualidade de vida, adesão medicamentosa e apoio social. A segunda etapa foi a construção da escala a partir de variáveis estatisticamente significantes após a análise multivariada.

Resultados: A escala foi composta pelas variáveis: idade, sexo, tabagismo, tempo de diagnóstico, classificação de risco na unidade de saúde, uso de medicamentos e depressão. Posteriormente, por meio de revisão da literatura, foram sugeridas ações para o autocuidado apoiado.

Conclusão: A escala permite a identificação de fatores que podem prever o desenvolvimento de complicações da hipertensão e fornece ações para o autocuidado apoiado.

Palavras-chave: Doença crônica. Saúde do adulto. Hipertensão. Cuidados de enfermagem.

RESUMEN

Objetivo: Desarrollar una escala predictiva de determinantes para complicaciones en adultos con hipertensión y acciones para autocuidado apoyado en atención primaria.

Método: Investigación metodológica realizada en el municipio de Curitiba-PR en 2013 y 2014, llevada a cabo en dos etapas. La primera a través de la recopilación de datos de 387 adultos con hipertensión, con una entrevista estructurada y escalas de ansiedad, depresión, calidad de vida, adherencia a la medicación y el apoyo social. La segunda etapa fue la construcción de la escala a partir de las variables estadísticamente significativas después del análisis multivariante.

Resultados: La escala fue compuesta por las variables edad, sexo, tabaquismo, hora del diagnóstico, clasificación de riesgo en la unidad de salud, uso de medicamentos y depresión. Posteriormente, a través de la revisión de la literatura, fueron sugeridas acciones para el autocuidado apoyado.

Conclusión: La escala permite la identificación de los factores que pueden predecir el desarrollo de las complicaciones de la hipertensión y se recomiendan acciones para el autocuidado apoyado.

Palabras clave: Enfermedad crónica. Salud del adulto. Hipertensión. Atención de enfermería.

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■ INTRODUCTION

The building of instruments for the care of people with chronic diseases is one of the trends in Brazilian nursing, in view of the new technologies for the care of chronic diseases, and mainly, because these can be used to assist in the supported self-care, which is a strategy that integrates the perspective of care guidelines and that can prevent complications.

Thus, professionals should invest in technology creation to meet this demand, focusing on developing and strengthening this field of knowledge, corroborating the model of care for chronic diseases that presupposes supported self-care actions, such as: evaluation, counseling, assistance and supervision⁽¹⁾.

The supported self-care empowers people to self-manage their condition, through the evaluation of their health state, agreement on targets, elaboration of individualized care plans and continuous monitoring, utilizing the resources of the health organizations and the community to provide that support⁽¹⁾.

Regarding Systemic Arterial Hypertension (SAH), it is known that it contributes to the increase in deaths due to cardiovascular diseases. Since it is one of the risk factors for them, and it is frequently cared for in primary care. However, even with all efforts performed for its control, it is still detected, due to its silent character, only when the first complications appear⁽²⁾.

The instruments used to measure existing and used risks allow for the prediction of the risks of complications through some variables, but do not lead to the monitoring of follow-up care in the prevention of complications. One of these instruments, used worldwide, is *the Framingham*, which estimates the risk, in percentage, of cardiovascular disease occurrence for a period of ten years.

The *Framingham's* scale use allows the health professional to classify patients into three levels of risk: low, medium and high, however, not proposals targeted actions of care are not proposed⁽³⁻⁴⁾. Another way to classify risk is the proposal of the Ministry of Health, that uses as a base the association of stages of hypertension, the presence of risk factors and co-morbidity, categorizing patients in four levels: low, moderate, high and very high⁽⁵⁾.

The factors involved in the emergence of complications are described in the literature⁽⁶⁾, but the recognition of these does not imply concrete preventive actions, so the great challenge is to translate the technical-scientific knowledge into concrete actions in the health network and in the scope of the population, to benefit the greatest possible number of people⁽⁷⁾.

Therefore, it is believed that the identification of risk and protection factors makes it possible to predict the

occurrence of SAH complications and may help in nursing care and follow-up of the person with hypertension, according to the needs presented by them.

In face of this, the following question is raised: what factors are common in people who suffered SAH complications that can be foreseen by the nurse? The objective was to elaborate a predictive scale of determinants for complications in adults with hypertension and actions for supported self-care in primary care.

■ METHODS

This is a methodological survey conducted in two stages (Figure 1): the first used a descriptive, quantitative and cross-sectional approach, with the participation of 387 people with SAH, enrolled in 18 health units of a health district in the city of Curitiba, Paraná. The sampling was systematic and stratified, with replacement, an error margin of 0.05 and a significance level of 95%.

Were included: people with hypertension diagnoses; adults aged between 18 and 60 years; classified as active in the computerized program responsible for the registration and follow-up of patients with Diabetes and Hypertension in the Brazilian Public Health System; whose minimum score in the Mini-Mental State Examination were 13 points for those with no schooling, 18 for low and average schooling, and 26 for high education. One to four incomplete years of education were considered as low schooling, four to eight incomplete years as average schooling, and more than eight years, as high schooling⁽⁸⁾.

Data collection took place at the participants' houses on weekdays, in the afternoon, from May 2013 to April 2014, through a structured interview composed of sociodemographic, economic and self-reported clinical variables, complemented by anxiety and depression scales, adherence to the medication, social support and quality of life.

The data was tabulated in *Microsoft Excel*[®] and analyzed with the *IBM SPSS Statistics* v. 20 Computational Program. Firstly, a univariate analysis of quantitative and qualitative variables was carried out. For the evaluation of the association between the qualitative variables and the presence of complications, the statistical tests Fisher Exact Test and Chi-square were used; while *Student's t* and *Mann-Whitney* tests were used for the quantitative variables. The correlation between the quantitative variables was estimated by the *Spearman* coefficient. Certain cut-off points were selected for the variables age, quantity of medicines and for the domains of the quality of life questionnaire from the adjustment of *Receiver Operating Characteristics* (ROC) curves.

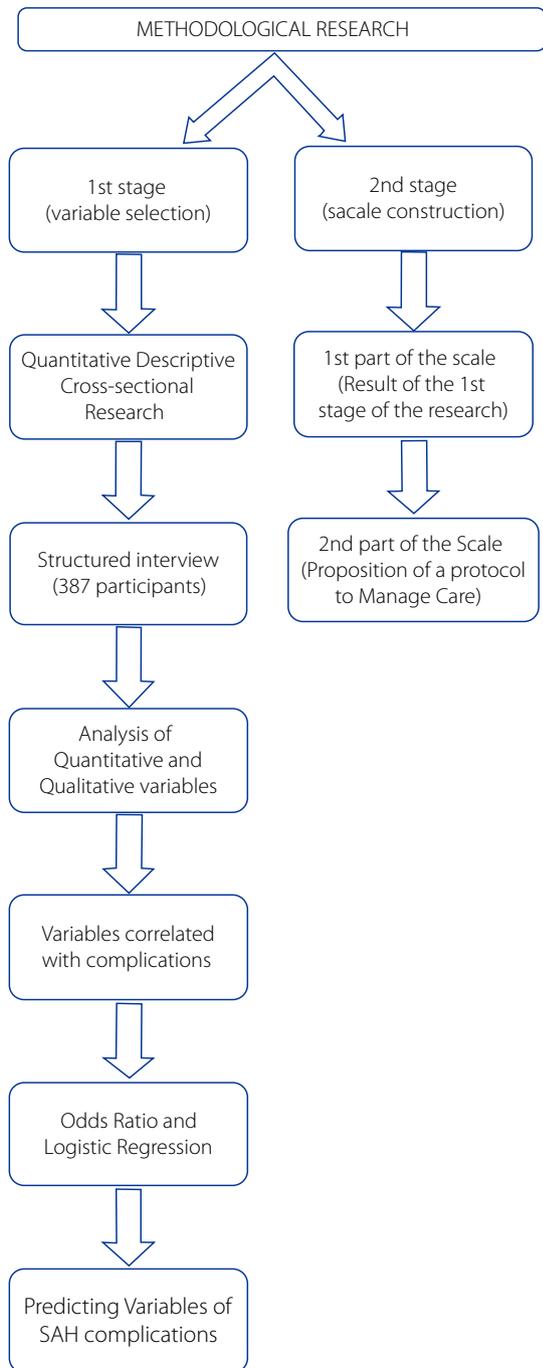


Figure 1- Schematic representation of the research steps. Curitiba, PR, Brazil, 2015

Source: The authors

After identifying variables that were significantly related to complications, the joint effect of these variables with the likelihood of complications was verified through the adjustment of a Logistic Regression model (*Stepwise Backward* with probability 0.05 for entry and 0.10 for Output variables), including those that presented p value <0.05 in the univariate analysis.

In the second stage, the construction of the scale, theoretical, empirical /experimental and analytical/statistical procedures were followed, according to Pasquali's methodological framework⁽⁹⁾. Variables of the multivariate model were used, results of the first part of the research, to elaborate the scale from the estimated *Odds Ratio* values, and the proportion of representativeness of each variable was calculated, establishing a score from 0 to 100.

To determine the risk classification criterion, participants with an estimated probability of complication of up to 25% were considered to be at low risk; from 25% to 49.9% of moderate risk; from 50% to 74.9% high risk and 75% or more would be at very high risk. Subsequently, a proposal for a protocol for self-care based on national, state and municipal guidelines was established.

The survey followed the recommendations of resolution 466/12 of the National Health Council. The Research Ethics Committee from the Health Sciences Sector of the Federal University of Paraná approved the project with human beings, Protocol CEP/SD 220.068, as did the Ethics Committee of the Municipal Health Department of Curitiba, Paraná. All participants signed the Free and Informed Consent Form, and to preserve their anonymity, the names were replaced by the initial "E" followed by numerals in ascending order.

The article was extracted from the doctoral thesis titled "Predictive factors for complications in people with systemic hypertension and actions for the management of nursing care in primary care"⁽¹⁰⁾.

■ RESULTS

The socio-demographic and economic profile of the participants was characterized by the predominance of women (76.2%), with an average of 53 years, less than eight years of schooling (65.1%), and family income of up to 947.3 reais (57.3%).

The reported risk factors were: obesity (51.9%), stress (58.7%), non-practice of physical exercise (57.1%), current or previous smoking (48, 2%), SAH diagnosis time (44.7%), use of four medications or more (45.2%), hospitalization (9.6), and SAH complications (19.4%), such as acute myocardial infarction (56.0%), stroke (30.7%) and chronic renal disease (5.3%). In the anxiety and depression scales, it was observed that 17.6% and 17.9%, respectively, presented moderate and severe levels, and the distribution was similar in both instruments.

The variables selected to compose the multivariate model (Table 1) were: age, gender, smoking, diagnostic time, risk classification, quantity of medications in use and depression.

Figure 2 introduces the proposed scale for complications of hypertension with the actions to be supported in primary care.

Table 1- Multivariate model of variables with statistical significance

Variables	Classification	With complication	P * Value (univariate)	P ** Value (multivariate)	Odds ratio (ci95%)
Age (years)	Up to 55	14,3%	0.007	0.033	1,90 (1,05 - 3,42)
	More than 55	25,4%			
Genre	Female	16,6%	0.016	0.022	2,14 (1,12 - 4,10)
	Male	28,3%			
Smoking	No	13,0%	0.001	0.016	2,09 (1,14 - 3,83)
	Yes/EX	26,3%			
Diagnostic Time (years)	Up to 10	12,1%	<0,001	0.005	2,35 (1,29 - 4,28)
	More than 10	28,3%			
US risk rating	Down	7,1%	<0,001	0.002	3,18 (1,53 - 6,63)
	Medium/high/Very high	27,7%			
Machine's number in use	Up to 4	10,7%	<0,001	<0,001	3,97 (2,20 - 7,16)
	More than 4	40,0%			
Depression	No/ not severe	17,6%	0.005	0.058	2,51 (0,97 - 6,49)
	Severe	41,4%			

Source: Research data, 2015.

NOTE: * Fisher's exact test, p < 0.05

** Logistic regression model and Wald test, p < 0.05

Predictor variables	Classification	Rated
Age (years)	Up to 55	0
	More than 55	10
Gender	Female	0
	Male	12
Smoking	No	0
	Yes/EX	11
Diagnostic Time (years)	Up to 10	0
	More than 10	13
Risk classification health unit *	Down	0
	Medium/high/Very high	18
Number of medicines in use	Up to 4	0
	More than 4	22
Depression ***	Without/ not severe	0
	Severe	14
Scale Points	Complication Probability	Complication Risk
Up to 50	Less than 25%	Down
51 to 67	25% to 49.9%	Moderate
68 to 82	50% to 74.9%	High
More than 82	75% or more	Very high

Proposal of a Protocol of Supported Health Care	
Low Risk of complications	<ul style="list-style-type: none"> - Medical and nursing consultations at least three times a year; - House visits twice a week; - Health Education activities⁺ scheduled at least twice a year; - Reclassification after twelve months.
Moderate Risk of complications	<ul style="list-style-type: none"> - Medical and nurse's consultations at least three times a year; - Minimum of three household visits and/or telephone contacts per year; - Agreement on the definition of goals according to identified problems and consultation's scheduling with a multidisciplinary team; - Health Education activities⁺ scheduled at least twice a year; - Reclassification after twelve months.
High risk of complications	<ul style="list-style-type: none"> Medical and nursing consultation every three months and scheduling consultations with professionals; House visits as support if necessary; Agreement on goals according to the problems identified by a multidisciplinary team; - Health Education Activities⁺ scheduled at least four times a year; - Reclassification after twelve months.
Very High Risk of complications	<ul style="list-style-type: none"> - Medical and nursing consultations interspersed each month and with a multidisciplinary team; - House visits as support when necessary; - Agreement on goals, according to identified problems; - Health Education Activities⁺ scheduled at least four times a year; - Reclassification after twelve months.

Figure 2 - Predictive factors range for systemic arterial hypertension complications and actions for the self-supported care. Curitiba, PR, Brazil, 2015

Source: Research data, 2015.

Note: * When there is no risk classification at the health facility, consider the Framingham's cardiovascular risk; ** All medicines used; *** A depression is considered severe when it has a medical diagnosis with medication treatment; ⁺ Health Education activities should be offered on a monthly basis.

■ DISCUSSION

The sociodemographic and economic characteristics of this research are similar to the profiles found in national and international studies on chronic disease⁽¹¹⁾, as are the age range for the risk of complications⁽¹²⁾, the prevalence of self-reported risk factors⁽⁷⁾, and the number of hospitalizations⁽¹³⁾.

Depression and anxiety are commonly associated with chronic diseases, and in this case they may negatively affect cognitive focus, energy and motivation, as well as the willingness and competence to follow treatment⁽¹⁴⁻¹⁵⁾. When comparing individuals with mild symptoms of depression and anxiety⁽¹⁴⁾, a tendency for smoking, physical, sexual and sleep disturbances can be noticed, but these participants are considered to be in regular health.

According to the literature, the risk of developing cardiovascular complications due to the non-control of blood-pressure levels is closely linked to risk factors such as obesity, smoking, sedentary lifestyle, abdominal circumference,

family history and high age⁽⁵⁾. However, not all of these factors had a statistically significant association with the development of complications. Age, gender, smoking, time of diagnosis, risk classification, medications in use and depression were highlighted.

The variables inserted in this prediction scale corroborate findings in the literature according to which the risk of complications of SAH are greater in the male sex, people older than 55 years, smokers, with a higher diagnosis time, a high number of medications in use, and are more severe in the case of Depression^(11,14-15).

In the non-medicated treatment for hypertension, it is necessary to adopt a healthy lifestyle, with adequate food, controlled consumption of salt and alcohol, to stop sedentariness and smoking, and these actions contribute to prevent the SAH and its complications⁽¹⁶⁾.

A study aimed at investigating the effect of smoking in blood pressure and the development of hypertension, found that 36% of participants were smokers, 9% ex-

smokers and 55% never smoked⁽¹⁷⁾ - a population similar to that of this survey, in which 48.2% smoke or have smoked during their lives.

The actions for supported self-care proposals consist of consultations with physicians, nurses, and other health professionals, home visits, joint definition of goals, educational activities in health and annual reclassifications. These were based on national, state, and municipal guidelines^(7,16-19), and focus on cooperation between the health team and health system users, to jointly establish priorities, develop care plans consistent with each one's reality, and monitor the results⁽¹⁾.

Therefore, it emphasizes the participation of the person with SAH together with healthcare professionals in the process of creating attainable goals and strategies aiming at a supported self-care. It is emphasized, that in order to meet the proposed protocol, a dialogue between professionals, patients, family members and health services becomes necessary, having the continuity of care as its objective, through the elaboration of an individualized care plan that helps the patient to be proactive in decisions about their health and enables them to use the existing services in the network.

■ CONCLUSIONS

A scale has been elaborated with variables that may be able to predict complications of arterial hypertension and, for these, scores were assigned, that when added, allow the definition of the level of risk in which the patient is, suggesting, through this classification, actions for the supported self-care.

It is believed that the scale developed in this research can contribute to the Unified Health System for its relevance in identifying the risk of the complications of SAH and in corroborating the proposal of supported self-care by stimulating the follow-up of care, aiming at prioritizing the needs of each patient, through the joint selection of goals and continuous monitoring to evaluate the results.

The limitations considered in this research were: the variables were self-reported and the design of the scale restricted it to the hypertensive adult population of the primary health care, in addition to the cross-sectional study design, which does not allow for the establishment of a relation between cause and effect.

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