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Protocol for hypertensive individuals assisted in Basic Health Care

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Abstract *Hypertension has low control rate in Brazil and around the World, resulting in social and medical costs; thus there is the need to apply control strategies. This study aimed to create and validate a protocol for consultation and monitoring of hypertensive patients attended in primary health care. It is constituted a methodological research which uses the Delphi method for content validation. The analysis of the protocol by experts was performed in three cycles, using a scale that was* not important *to* extremely important*, with a graduation from 1 to 5. The analysis was performed by the Likert scale, percentage of agreement, content validation index, Pearson correlation. The percentage of agreement was 96%. The CVI of 0.98. The Likert scale scored items, at least, as very important. The Pearson correlation was positive for all items ranging from moderate to strong. The protocol is composed of 53 items, divided into seven dimensions. It was concluded that the protocol enables more expressive and systematics monitoring of hypertensive patients and it identifies social and individual conditions that contribute to high blood pressure, so it may be used to guide the consultation, encouraging dialogue between the professional and patient and effective recording of care.*

Key words *Hypertension, Primary Health Care, Validation, Protocol*

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Introduction

Primary Health Care (PHC) encompasses the user's first contact with the health system and is responsible for organizing care for their health, their families and the population. Therefore, it should be guided by the principles of first contact, longitudinally, comprehensiveness, coordination, family approach and community approach[1].

Because of its organizational context, PHC stands out with three essential functions: resolution, through which it is able, from its cognitive and intellectual capacity, to solve 85% of the public health problems of the population; communication, for which it is responsible for the reference and counter-reference of people, products and information generated by the various components of the network; and accountability, which includes liaison with the population ascribed based on territorial organization, management and sanitary and financial responsibility[2].

However, even with the strengthening of PHC, hospitalizations due to diseases that could be controlled under the action of Primary Care (PC) continue to occur, such as hypertension. Systemic arterial hypertension (SAH) is defined as a multifactorial clinical condition characterized by elevated and sustained blood pressure (BP) levels, often associated with changes in functions and/or structures of target organs (heart, brain, kidneys and blood vessels) and metabolism, leading to an increased risk of fatal and non-fatal cardiovascular events[3].

Three important items characterize hypertension: prevalence, as it affects 22.3% to 43.9% of the population over 18 years of age (32% on average, 50% in the 60-69 age group and 75% in the age group > 70 years) and accounts for a significant portion of primary network appointments; transcendence, as it is one of the main risk factors associated with acute myocardial infarction (AMI), cerebrovascular accident (stroke) and other injuries, including death, in addition to its silent development; vulnerability, since it is easily treatable and controllable under the PHC, as 50% to 80% of the cases are solved in the primary network[4-6].

Despite being considered a serious public health problem, it still presents a low control rate in Brazil (18% to 19.6%)[6,7], causing medical and social costs, mainly due to its complications[5,8]. In the world scenario, the European average of control of SAH in PC is 8%. The USA, between 1988 and 2008, doubled the percentage of control (27.3% vs. 53.5%) and Canada quintupled it between 1992 and 2009 (13.2% vs. 64.6%), evidencing important advances in the detection and treatment of hypertension[7]. Canada, followed by Cuba, has the best indicators of prevalence (22% and 20%, respectively, in the general population; and 50% in the age group > 50 years), diagnosis (87% - 78%), treatment (82% - 61%) and control (66% - 40%)[6].

Due to these characteristics and lack of control in blood pressure levels, hypertension has accounted, according to data from the DataSUS, in the period from 2008 to 2015, by 302,051 admissions of adults aged 20 to 59 years in Brazil, with an average of 37,756/year and a rate of 3.5/1000 hospitalizations[9]. It has shown a decreasing behavior with a respective average decrease of 7.3%/year for women and 6.8%/year for men.

In order to achieve control of blood pressure levels in hypertensive patients, increasing the commitment of PC professionals in the form of teamwork is necessary, through democratic and participatory health and management practices, using highly complex and low-density technologies[10]. Making PHC operational and effective as an organizing axis of the health system is a challenge for all, managers and professionals, because of the different forms of dispute of interest and understanding of ways to manage the system and put the user as the center of the health care process[11].

Strategies have been used to optimize care and follow-up of hypertensive patients in PHC. In the world scenario, the use of protocols for monitoring and control of SAH has been adopted with emphasis[12,13]. In Brazil, the protocol for diagnosis of hypertension proposed by the Ministry of Health[4] and by the Municipal Health Department of Curitiba[14] stand out, besides a specific instrument for nursing appointment as proposed by Codogno et al.[15], which limits its use to a professional category, despite the recognition of the importance of the nursing appointment in the comprehensive care, as provided in Resolution 358[16].

The Family Health Strategy (FHS), through its actions and ways of organizing the work process, should monitor hypertensive patients through monthly appointments, by a physician or nurse, by measuring weight, blood pressure, providing guidelines and prescription of drug and non-drug treatment, thus promoting monitoring and evaluation of the evolution of the instituted treatment.

A study identified that municipalities do not have exclusive supplies to provide services/actions against hypertension, despite the fact that

it requires longitudinal care, making them inefficient for this specific action, even though they are not inefficient for the performance of the FHS[17]. Alves and Calixto[18] emphasize that individuals with hypertension have difficulty in adhering to treatment, which is a major challenge for health professionals, who seek solutions to overcome it, and this is possible when the patient trusts in the information received and creates bond with the team. Dantas[19] observed that most of the hypertensive patients complained about the quality of the appointment. This situation becomes an obstacle for the patient to trust and create a bond with the professionals and the service.

This scenario, coupled with the existence of protocols and recommendations for diagnosis and follow-up of hypertension patients elaborated by the Ministry of Health, Municipal Health Associations and Secretariats, compiled in a voluminous and extensive way, raised the need for a compact instrument prepared for appointment and follow-up for hypertensive patients. This instrument can be used by the family health team, as a means of operationalizing, systematizing and objectifying the appointment, making it a space for dialogue, listening and bonding based on a more holistic care, as well as to optimize records and favor adherence to treatment and, therefore, control of blood pressure levels.

The intention was to prepare an instrument of relevant importance for Collective Health, since it would be a data aggregator that, when analyzed, will provide relevant information for researchers, managers and professionals for decision-making and management of care.

Therefore, the objective of this study was to build and validate a protocol for appointment and follow-up of patients with arterial hypertension treated in Primary Care.

Method

This is a methodological research, which aimed to build a reliable, precise and applicable instrument that can be used by other researchers and professionals. The approach used was content validity, following Delphi's method, in which specialists with extensive experience in the area were able to judge, remove and add items of interest to suit the instrument, evaluating the degree of relevance and representativeness of each constant element[20-22].

The instrument was elaborated with elements related to hypertension, which composed the items organized by dimensions, obeying the premise of clarity, simplicity and objectivity, which offers easy-to-understand communication, in order to provide an objective appointment and effective follow-up, with elements that favor an analysis of changes that occurred over time on the clinical condition of the hypertensive. The theoretical references of the Brazilian Guidelines for Hypertension of the Brazilian Society of Cardiology[3], The First Brazilian Positioning in Hypertension and Diabetes Mellitus of the Brazilian Society of Cardiology and Brazilian Society of Nephrology[7] and the Strategies for the care of the person with chronic disease - Systemic Arterial Hypertension of the Ministry of Health[6] were used.

The construction followed the following steps:

1) Previous reading of the theoretical references for identification of variables and aggregation by dimension.

2) Presentation to a panel of judges composed of students and professors of the Graduate Program in Collective Health of the Federal University of Rio Grande do Norte.

3) Adjustment of the initial proposal that generated the version presented to the experts, consisting of seven dimensions and 33 items: (1) characterization of the patient (name, date of birth, height, occupation, date of diagnosis, blood pressure, sex, schooling and income)[3,6], (2) health indicators (BP, weight, waist, hip, waist circumference, physical activity, low-salt diet, low-fat diet, smoking, alcohol, discontinuation of treatment and comorbidities)[3,6,7], (3) psychosocial indicators (stress, depression, low self-esteem and employment)[3,6], (4) signs of hypertensive crisis (headache, visual changes, neurological deficit, visual deficit, dyspnea)[3,6], (5) occurrence of complications (hospitalization, stroke, AMI)[3,6,7], (6) laboratory tests (cholesterol, triglycerides, urea, creatinine)[3,6,7] and (7) conducts.

4) Validation by experts.

The validation process occurred in three cycles: in the first version, the experts pointed out suggestions for additions or withdrawals of items, justifying them and punctuating them as: not important (1), somewhat important (2), important (3), very important (4), extremely important (5), and justifying each one. After the first cycle, the analysis was consolidated and returned to the experts as feedback, as well as the new version of the instrument for the second evaluation cycle. At the end of the second cycle, the authors proceeded as in the first one, and the consolidated

analysis and the version were forwarded to be submitted to a last change. The experts could change the score in the evaluations of the items if they considered it pertinent, and they should justify each change. Each cycle had a deadline of 15 days to be returned. A reminder e-mail was sent on the seventh and 14th days.

For the selection of the experts, the inclusion criteria included having experience with hypertension, having recognized technical and scientific competence within this specific area and being fully engaged as a teaching professional or providing assistance in the FHS. Exclusion criteria were having less than one year of work in the FHS, being retired, being away for more than six months of their activities and having teaching practice that does not encompass the PHC/FHS or cardiology sector. A total of 30 professionals specialized in the topic were contacted and invited by e-mail, representatives of higher education institutions (HEI) and FHS professionals, distributed as 15 nurses and 15 physicians. Of these, 20 accepted the invitation, totaling the sample of the study, being 11 nurses and nine physicians. Subsequently, the instructions for the instrument evaluation were sent out with regard to the writing, comprehension and relevance of the items, with indication of reading of the theoretical references used in the construction for consultation. The instrument and the Free and Informed Consent Form approved by the Ethics Committee in Research of UFRN.

Data were analyzed by using the Likert scale. The individual analysis of each item was performed, and the percentage of agreement among the experts had an acceptable score of ≥ 90%. Its calculation was given by the number of answers 3, 4 and 5 divided by the number of experts[20].

Then, the content validation index of the items (CVI-I) was calculated, considering the sum of the number of positive answers (3, 4 and 5) that characterize the importance of the item divided by the total value, in this case 100 points, equivalent to the maximum score x number of experts. The minimum threshold for acceptance is 0.80. The CVI was calculated by the averages of the CVI-I, which evaluated the agreement of the experts regarding the representativeness of the instrument and of the items whose minimum acceptance value was 0.90, since it is a new instrument, as recommended by Polit and Beck[22]. Pearson's correlation was used to select the items that would remain in the instrument, since its coefficient is the most common strategy to evaluate intra-observer reliability[20].

The analysis was presented in tables. The table of the answers averages distribution was presented according to dimension. The table of the validation index was presented according to the items. Dimensions were identified by Roman numeral: I - Patient characterization, II - Health indicators, III - Psychosocial indicators, IV - Signs of hypertensive crisis, V - Occurrence of complications, VI – Laboratory tests and VII - Conducts.

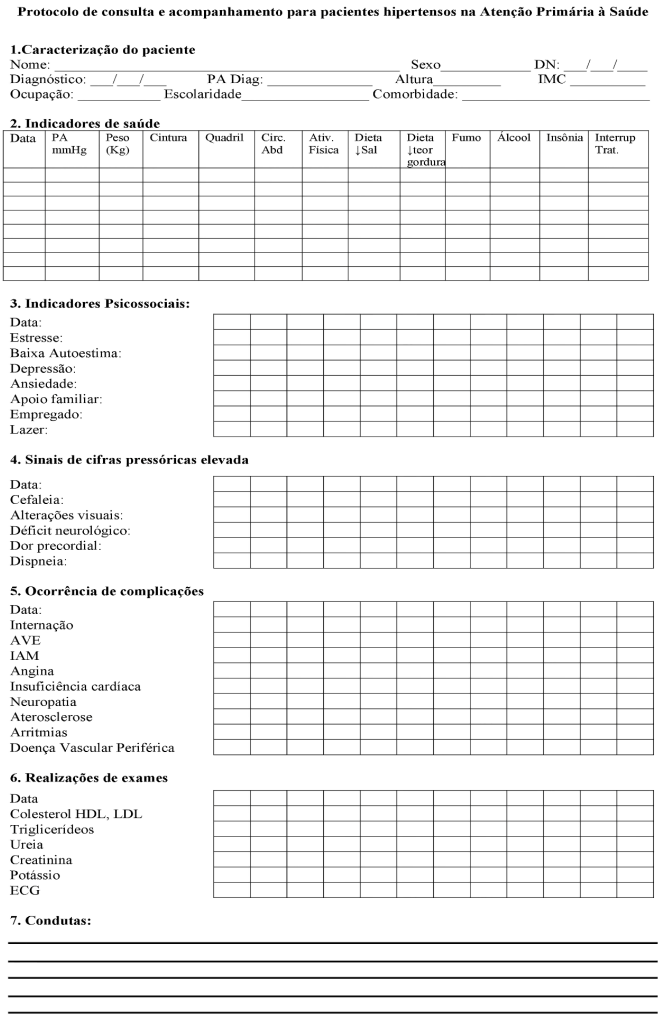
Results

The initial instrument, after the cycles and evaluations of the experts, went from 33 to 53 items with the inclusion of 20 items proposed by the experts. However, with the removal of three items that did not present a minimum agreement and CVI-I, it now has 50 items. The added and removed items were: I - patient characterization (sex, schooling, income (removed), body mass index (BMI), comorbidity); II - health indicator (insomnia); III - psychosocial indicator (employment, family support and leisure); IV - signs of hypertensive crisis (cough - removed); V - occurrence of complications (angina, heart failure, nephropathy, atherosclerosis, arrhythmias, peripheral vascular disease); and IV - laboratory tests (potassium, elements and abnormal sediment - urine type 1 (EAS - removed), electrocardiogram (ECG)) (Figure 1).

The analysis of the importance of the items that composed the instrument was represented by the average of answers of the experts and their proportion (Table 1). The answer "unimportant" was not quoted by the experts, so it was deleted from the Table. 98.1% of the experts agreed on the importance of the items, revealing, in their opinion, that the instrument meets the proposed objectives. Experts could change their opinion between cycles. In the third cycle, only two experts changed their opinion, scoring a higher value than the previous one, characterizing a positive change in the evaluation of the item.

The statistical analysis presented in Table 2 allows the visualization of the scores of the items individually regarding: percentage of agreement, Likert Scale, CVI-I and Pearson Correlation.

The percentage of agreement between the experts defined how much they are in tune in the evaluation of the instrument. Its application, together with CVI-I, revealed three items that should be withdrawn from the protocol: income, cough and EAS, since they presented scores lower than the minimum recommended (90% and



Protocolo de consulta e acompanhamento para pacientes hipertensos na Atenção Primária à Saúde

1.Caracterização do paciente

Nome: _____ Sexo_____ DN: ___/___/____

Diagnóstico: ___/___/___ PA Diag: _____ Altura_____ IMC _____

Ocupação: _____ Escolaridade_____ Comorbidade: _____

2. Indicadores de saúde

Data	PA mmHg	Peso (Kg)	Cintura	Quadril	Circ. Abd	Ativ. Física	Dieta ↓Sal	Dieta ↓teor gordura	Fumo	Álcool	Insônia	Interrup Trat.

3. Indicadores Psicossociais:

Data:												
Estresse:												
Baixa Autoestima:												
Depressão:												
Ansiedade:												
Apoio familiar:												
Empregado:												
Lazer:												

4. Sinais de cifras pressóricas elevada

Data:												
Cefaleia:												
Alterações visuais:												
Déficit neurológico:												
Dor precordial:												
Dispneia:												

5. Ocorrência de complicações

Data:												
Internação												
AVE												
IAM												
Angina												
Insuficiência cardiaca												
Neuropatia												
Aterosclerose												
Arritmias												
Doença Vascular Periférica												

6. Realizações de exames

Data												
Colesterol HDL, LDL												
Triglicerideos												
Ureia												
Creatinina												
Potássio												
ECG												

7. Condutas:

Figure 1. Protocol for appointment and follow-up for hypertensive patients in Primary Care.

Table 1. Distribution of the experts' answers by the dimensions of the instrument, according to the degree of importance.

Scale of answers	Little Important		Important		Very Important		Extremely Important		Total		SD
Dimension		**%**		**%**		**%**		**%**		**%**	$\overline{X}$
Patient characterization	0.9	4.5	3.9	19.5	5.4	27.0	9.8	49.0	4.24	96.0	0.867
Health indicators	0.3	1.5	0.8	4.0	5.3	26.5	13.6	68.0	19.7	98.5	0.561
Psychosocial indicators	0.1	0.5	3.4	17.0	6.6	33.0	9.9	49.5	19.9	99.5	0.770
Signs of changes in blood pressure levels	0.5	2.5	2.7	13.5	4.0	20.0	12.8	64.0	19.5	97.5	0.779
Occurrence of complications	0.0	0.0	0.9	4.5	3.7	18.5	15.4	77.0	20.0	100.0	0.513
Laboratory tests	0.8	4.0	3.6	18.0	3.3	16.5	12.3	61.5	19.2	96.0	0.891
Conduct	0.0	0.0	0.0	0.0	5.0	25.0	15.0	75.0	20.0	100.0	0.444
$\overline{X}$	0.4	2.0	2.2	11.0	4.8	23.8	12.7	63.4	19.6	98.1	0.689

Table 2. Percentage of Concordance, Content Validation Index, Likert Scale, and Pearson's Correlation by Item.

	Dimension/ Items	% Concord	CVI-I	Likert	Pearson (Min-Max)	p value (Min – Max)
I	Name	100.0	0.85	4.25	0.45 – 0.85	0.044 – < 0.001
	Sex	90.0	0.80	4.20	0.46 – 0.95	0.037 – < 0.001
	Date of birth	100.0	0.90	4.50	0.45 – 0.86	0.047 – < 0.001
	Date of diagnosis	100.0	0.86	4.30	0.49 – 0.81	0.027 – < 0.001
	BP at the time of diagnosis	100.0	0.92	4.60	0.47 – 0.53	0.036 – 0.015
	Height	90.0	0.80	4.20	0.45 – 0.95	0.049 – < 0.001
	BMI	100.0	0.91	4.55	0.45 – 0.86	0.047 – < 0.001
	Occupation	95.0	0.79	4.05	0.45 – 0.88	0.048 – < 0.001
	Schooling	95.0	0.78	4.00	0.45 – 0.84	0.042 – < 0.001
	Income	90.0	0.75	3.75	0.50 – 0.84	0.024 – < 0.001
	Comorbidity	100.0	0.96	4.80	0.48 – 0.67	0.030 – 0.001
II	BP	100.0	0.95	4.75	0.45 – 0.86	0.047 – < 0.001
	Weight	100.0	0.93	4.65	0.45 – 0.83	0.048 – < 0.001
	Waist	95.0	0.86	4.40	0.50 – 0.72	0.023 – < 0.001
	Hip	95.0	0.81	4.15	0.45 – 0.70	0.049 – 0.001
	Abdominal circumference	100.0	0.93	4.65	0.45 – 0.79	0.049 – < 0.001
	Physical activity	100.0	0.96	4.80	0.45 – 0.86	0.045 – < 0.001
	Low-salt diet	100.0	0.91	4.55	0.46 – 0.88	0.041 – < 0.001
	Low-fat diet	100.0	0.91	4.55	0.45 – 0.90	0.048 – < 0.001
	Smoking	100.0	0.93	4.65	0.45 – 0.92	0.049 – < 0.001
	Alcohol	100.0	0.92	4.60	0.45 – 0.92	0.043 – < 0.001
	Insomnia	100.0	0.81	4.05	0.45 – 0.79	0.042 – < 0.001
	Treatment discontinuation	100.0	0.96	4.80	0.45 – 0.91	0.048 – < 0.001
III	Stress	100.0	0.92	4.60	0.46 – 0.78	0.040 – < 0.001
	Low self-esteem	100.0	0.86	4.30	0.45 – 0.91	0.049 – < 0.001
	Depression	100.0	0.86	4.30	0.45 – 0.92	0.043 – < 0.001
	Anxiety	100.0	0.88	4.40	0.46 – 0.93	0.037 – < 0.001
	Family support	100.0	0.87	4.35	0.45 – 0.89	0.048 – < 0.001
	Employment	100.0	0.83	4.15	0.45 – 0.91	0.048 – < 0.001
	Recreation	95.0	0.79	4.05	0.45 – 0.93	0.045 – < 0.001
IV	Headache	100.0	0.87	4.35	0.47 – 0.92	0.035 – < 0.001
	Visual changes	100.0	0.89	4.45	0.46 – 0.91	0.037 – < 0.001
	Neurological deficit	100.0	0.94	4.70	0.45 – 0.94	0.044 – < 0.001
	Precordial pain	100.0	0.95	4.75	0.46 – 0.94	0.043 – < 0.001
	Dyspnea	95.0	0.91	4.55	0.45 – 0.87	0.042 – < 0.001
	Cough	90.0	0.75	3.95	0.46 – 0.76	0.043 – < 0.001
V	Hospitaization	100.0	0.95	4.75	0.45 - 0.69	0.045 – 0.001
	Stroke	100.0	0.98	4.90	0.45 - 0.85	0.047 – < 0.001
	AMI	100.0	0.98	4.90	0.45 - 0.85	0.047 – < 0.001
	Angina	100.0	0.95	4.75	0.45 - 0.90	0.045 – < 0.001
	Cardiac insufficiency	100.0	0.95	4.75	0.45 - 0.90	0.045 – < 0.001
	Nephropathy	100.0	0.95	4.75	0.46 - 0.91	0.043 – < 0.001
	Atherosclerosis	100.0	0.92	4.60	0.45 - 0.87	0.045 – < 0.001
	Arrhythmias	100.0	0.92	4.60	0.45 - 0.87	0.045 – < 0.001
	Peripheral vascular disease	100.0	0.91	4.55	0.45 - 0.89	0.049 – < 0.001

it continues

Table 2. Percentage of Concordance, Content Validation Index, Likert Scale, and Pearson's Correlation by Item.

	Dimension/ Items	% Concord	CVI-I	Likert	Pearson (Min-Max)	p value (Min – Max)
VI	Cholesterol	100.0	0.91	4.55	0.45 – 0.90	0.049 - < 0.001
	Triglycerides	100.0	0.91	4.55	0.45 – 0.90	0.049 - < 0.001
	Urea	100.0	0.88	4.40	0.45 – 0.91	0.045 - < 0.001
	Creatinine	100.0	0.88	4.40	0.45 – 0.91	0.045 - < 0.001
	Potassium	95.0	0.82	4.20	0.45 – 0.91	0.048 - < 0.001
	EAS	80.0	0.69	3.85	0.45 – 0.86	0.049 - < 0.001
	ECG	100.0	0.90	4.50	0.45 – 0.84	0.047 - < 0.001
VII	Conducts	100.0	0.95	4.75	0.45 – 0.86	0.047 – < 0.001

0.80, respectively). In the instrument, as a whole, the percentage of agreement between the experts was 99.4% and the protocol CVI was 0.90.

The score generated on the Likert Scale placed the items in the condition very important. Pearson's correlation showed that, despite the experts' evaluation, the item Comorbidity, at dimension II, did not present any correlation. Knowing the importance of comorbidity to define the clinical condition of hypertension, dimension I was added, which presented correlation with several items, being maintained in the instrument in the said dimension. The correlations of the items were positive and maintained a moderate (Pearson > 0.45) to strong correlation (Pearson > 0.90) according to the classification of Dancey and Reily[23].

In this way, the instrument was organized in eight dimensions and 50 items: I - Patient characterization, composed of 10 items that list the hypertensive patient data, allowing to draw a sociodemographic profile of this user; II - Health indicators, in which the 12 items allow the identification, registration and analysis of cardiovascular and metabolic risk factors; III - Psychosocial indicators, which includes seven items that add contributing conditions to social and mental well-being; IV - Signs of high blood pressure levels, in which signs are distributed in five items and allow to identifying possible hypertensive crises; V - Occurrence of complications, presenting nine items, mostly due to the lack of control of pressure values; VI – Laboratory tests, in which the ones for the monitoring of the metabolic function stand out, consisting of six items; and VII - Conducts, composed only of the item Conducts, which allows the registration of the care provided (Figure 1).

Discussion

The protocol was designed and built as an instrument for appointments and follow-up of hypertensive patients, since the diagnosis of hypertension is determined by the physician, which usually occurs during an appointment to the adult or elderly person. After this diagnosis, the patient starts to be monitored by the PHC health team in a monthly appointment. Mafaltti and Asuncion[24] emphasize that after the diagnosis, there must be a connection between the user and the service, and a differentiated care should be provided by the multidisciplinary team, in order to avoid low levels of follow-up, measures must be taken.

The construction of the instrument followed a rigorous method[20] and obeyed the theoretical precepts of the studied object[3,6,7]. The inclusion of other items in the study demonstrated the commitment and the effective participation of the experts, as well as the achievement of the purpose of the technique, which allowed an individual analysis of the items and of the protocol as a whole, making it more consistent[20] in achieving the objectives for which it was proposed. This process collaborated with the clarity of the scope and evidenced the discriminative power of the items[25].

This work has placed all dimensions in the condition of very important, and thus the protocol has proved to be a potential strategy for appointments and follow-up of hypertensive patients, since it provides elements that favor decision-making on the clinical condition of the patient, management of the treatment, control of blood pressure and the improvement of the indicators of morbidity and mortality due to cardiovascular diseases (CVD). As emphasized in

another study, the use of protocols increases the perception of patients and professionals about the advances in treatment and enables setting goals to be achieved[25].

The items maintained a positive correlation that varied from moderate to high, demonstrating that they achieved the proposed objective, since the scores were well above zero[26]. The application of the five-point Likert Scale, in which there is a neutral point, allowed the acquisition of consistent answers, with clarity for analysis, and evidenced the importance of the items of the instrument. Its applicability has become relevant because of the ability and experience of the respondents. For Dalmoro and Vieira[27], the use of scales with points from 3 to 10 and the use of a neutral point allows an adequate level of reliability, as it leads to the identification of important relations between items and, consequently, to a high-validity construct. Among these, the most used is the one of 5 points, object of this study.

The protocol begins with the characterization data, which includes sociodemographic information, making it possible to build the profile of the hypertensive patient and a more targeted decision-making. These data are relevant because they provide knowledge of information and factors that may influence the therapeutic method and the quality of care provided by the health team[3,15]. The variable sex/age is important given that hypertension is more prevalent in males, with a change in this trend after 50 years of age, when women reach menopause, and it is more prevalent in the elderly[3,6]. Knowing the date of diagnosis allows identifying the time of exposure of the patient to the disease and its possible clinical consequences, especially the injuries in target organs[6,7].

The value of BP at the time of diagnosis allows a permanent evaluation of the evolution of the disease. Height and BMI are important indicators for metabolic risk assessment. Knowledge of comorbidities determines drug choice and specific guidelines for non-drug treatment[3,6]. Socioeconomic condition and schooling emerge as risk factors for CVD, since they are determinant in the adoption of conditions that improve quality of life. Health professionals should stimulate measures to improve patients' lifestyle, but adopting these measures depends on the subject's understanding of their problem, the motivations received and the conditions that they have[6]. Therefore, income and schooling, as social determinants of health, are closely related to hypertension[28].

Health indicators aggregate information that allows the identification of risk factors for the maintenance of pressure values, and therefore they favor the adoption of specific measures by professionals, to be developed with and by the patient. The BP value at the time of appointment allows an analysis, at each professional/patient meeting, of the control of BP. Weight, measurement of waist, hip and abdominal circumference, when measured and evaluated, serve as indicators of cardiovascular and metabolic risk[6]. Physical activity, and low-salt and low-fat diet allow nutritional evaluation of the patient and offer subsidies for the prevention and control of hypertension, since weight reduction, adoption of healthy eating and life habits are the most non-pharmacological measure to control hypertension and reduce cardiovascular risks[29]. The items smoking and alcohol are recognized as individual cardiovascular risk factors to the installation and low control of SAH[3,9,30] and should therefore be a frequent target of researches.

Chronic insomnia is associated with an increased risk of developing hypertension in adult patients, and this risk becomes more pronounced in people with depression. In addition, in hypertensive patients, it favors the increase of blood pressure levels[31,32]. Regarding the discontinuation of treatment, this item favors the knowledge of the patient's treatment, and with this, the adoption of strategies to reverse it. Discontinuation of treatment is associated with patient non-recognition of the disease and difficult access to goods and services[33].

Psychosocial indicators stand out because they incorporate conditions that change the emotional aspect and, therefore, the circulatory and respiratory system, favoring the installation of SAH. The variables stress, depression, anxiety and low self-esteem, characterized as emotional disturbances, trigger the limbic structures and produce cardiovascular and respiratory responses, causing visceral changes, among them, the increase of blood pressure levels [34]. Therefore, the investigation of these variables at each appointment is a primordial point since these situations favor the non-control of blood pressure even before the appropriate treatment. Family support positively influences patients' adherence to treatment[18] and the family becomes a facilitator in this process[35]. This premise includes the importance of knowing the role of the family in the life of the hypertensive patient.

Work/occupation is related to changes in pressure levels, since specific working conditions

may favor the appearance of other factors such as worry, work overload, sleep deficit, among others, besides determining the income itself. Dias and Pereira[36] state that occupation is related to the increase in BP, and the lower the occupational status, the greater the tendency of increase, a fact explained by aggravating situations, such as job dissatisfaction, environmental and social stress, among others. In addition, a low occupation status limits the subject's leisure options. The Brazilian Society of Hypertension points to leisure as the ninth commandment against hypertension, to combat stress[37].

Changes in blood pressure levels, based on the classification of the Ministry of Health and the Brazilian Society of Cardiology[3,6], as well as the sustainable values of the hypertensive patient, are important indicators of the onset of hypertensive crises, and should be identified early for the adoption of preventive measures. Headache is one of the symptoms of hypertensive crisis and, along with visual changes, neurological deficit, precordial pain and dyspnea, it comprises the set of symptoms that may aid in the identification of a hypertensive crisis[29]. These symptoms can be investigated by health professionals, including by the nursing technician or assistant and, in the presence thereof, the patient must be referred to the physician, as it characterizes a possible hypertensive crisis[34].

Complications due to hypertension are closely related to the lack of control in the blood pressure levels and, therefore, it is essential to investigate them at the time of the appointment. Stroke, AMI, angina, heart failure and peripheral vascular disease are conditions related to hypertension[3]. In the registry of the hypertensive patient, after diagnostic confirmation in the FHS for follow-up by the team, a significant percentage of hypertensive users presented one or more complications[38]. This explains why knowledge of these complications, based on an effective follow-up by the PHC teams and the adoption of strategies for prevention, diagnosis, treatment and control, helps to reduce future cardiovascular complications and possible hospitalizations resulting from them and from the lack of control of blood pressure[29,39].

Laboratory tests are characterized as diagnostic support in the initial appointment and during follow-up of the hypertensive patient. They also help identifying other risk factors and the adoption of conducts. The Ministry of Health[28] suggests that, during the follow-up of patients with hypertension, total cholesterol, HDL and LDL, triglycerides, creatinine, potassium, analysis of physical characteristics, elements and sediments in urine (type-1 urine) and accomplishment of electrocardiogram is performed. The professional should be attentive to the individual accompaniment of each patient, always considering the cardiovascular risk, the goals of care and the existing complications. Elevated urea levels are suggestive of secondary hypertension[3].

During all appointments and follow-up, it is essential to record the interventions/actions proposed and/or performed, since it allows the knowledge of the clinical evolution of the patient and decision-making. For this reason, registration becomes essential to patient care and an important source of knowledge for professionals, patients, families and the community[40].

Conclusion

The control of pressure levels is an essential factor for the improvement of health indicators regarding hospitalizations and the occurrence of complications due to hypertension and it increasingly requires the adoption of strategies for this purpose. The construction of a protocol allows a more expressive and systematic monitoring of the hypertensive user, as well as the identification of individual and social conditions that contribute, directly or indirectly, to maintain high blood pressure level. In addition, it becomes a guide for conducting the appointment, allowing a greater dialogue between the professional and the patient, as well as a space for records to happen more effectively, ensuring a more personalized service, based on the individual needs of each patient.

The protocol was evaluated in all its content by the experts as very important, with a level of agreement close to unanimity, characterizing its validity of content, becoming compatible for the monitoring of hypertensive patients in Primary Health Care. This study described the validation process of the instrument content, which is an important phase for the development of the instrument, as well as to generate reliability in its application with the target population as a continuous step of this process.

Collaborations

RCO Dantas worked on design, research, methodology, analysis and writing of the article and AG Roncalli worked on methodology, analysis and final writing.

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