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ORIGINAL ARTICLE

THE USE OF THE *BRIEF MEDICATION QUESTIONNAIRE* IN MEDICATION ACCESSION OF HYPERTENSIVES UTILIZAÇÃO DO *BRIEF MEDICATION QUESTIONNAIRE* NA ADESÃO MEDICAMENTOSA DE HIPERTENSOS EL USO DEL *BRIEF MEDICATION QUESTIONNAIRE* EN LA ADHESIÓN DE MEDICACIÓN DE HIPERTENSOS

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ABSTRACT

Objective: investigating the correlation of the variables time of diagnosis, systolic blood pressure and the number of medicines with the level of adherence to drug treatment. **Method:** a descriptive correlational study conducted with 100 hypertensive adults in health units in Curitiba/PR, Brazil, and in the homes of participants in 2013, using semi-structured interviews and the Brief Medication Questionnaire. The results were analyzed using the Statistical Package for Social Sciences 15.0 and presented in tables and discussed with the literature. The study had the project approved by the Research Ethics Committee, CAAE: 07444512.0.0000.0102. **Results:** the correlation between the variables: level of adherence ($p = 0.001$), systolic blood pressure ($p = 0.005$) and time of diagnosis ($p = 0.048$) with the number of medications statistically significant. **Conclusion:** the use of Brief Medication Questionnaire showed that the variables have correlation with the diagnostic time and influence in adherence to antihypertensive treatment. **Descriptors:** Chronic Disease; Drug adherence; Adult Health; Hypertension.

RESUMO

Objetivo: verificar a correlação das variáveis tempo de diagnóstico, valor da pressão arterial sistólica e o número de medicamentos com o grau de adesão ao tratamento medicamentoso. **Método:** estudo descritivo correlacional, com 100 adultos hipertensos, realizado em unidades de saúde de Curitiba/PR, Brasil e no domicílio dos participantes em 2013, utilizando-se de entrevista semiestruturada e do *Brief Medication Questionnaire*. Os resultados foram analisados pelo *Statistical Package for the Social Sciences 15.0* e apresentados em tabelas e discutidos com a literatura. O estudo teve o projeto aprovado pelo Comitê de Ética em Pesquisa, CAAE: 07444512.0.0000.0102. **Resultados:** a correlação entre as variáveis: grau de adesão ($p = 0.001$), valor da pressão arterial sistólica ($p = 0.005$) e tempo de diagnóstico ($p = 0.048$) com o número de medicamentos mostrou significância estatística. **Conclusão:** a utilização do *Brief Medication Questionnaire* permitiu verificar que as variáveis estudadas possuem correlação com o tempo de diagnóstico e influenciam na adesão ao tratamento anti-hipertensivo. **Descritores:** Doença Crônica; Adesão Medicamentosa; Saúde do Adulto; Hipertensão.

RESUMEN

Objetivo: investigar la correlación de las variables tiempo de diagnóstico, la presión arterial sistólica y el número de fármacos para el nivel de adherencia al tratamiento farmacológico. **Método:** es un estudio descriptivo correlacional llevado a cabo con 100 adultos hipertensos en las unidades de salud en Curitiba/PR, Brasil, y en los hogares de los participantes en el año 2013, a través de entrevistas semi-estructuradas y el *Brief Medication Questionnaire*. Los resultados se analizaron con el *Statistical Package for Social Sciences 15.0* y presentados en tablas y discutidos con la literatura. El estudio tenía el proyecto aprobado por el Comité de Ética de Investigación, CAAE: 07444512.0.0000.0102. **Resultados:** la correlación entre las variables: nivel de adherencia ($p = 0.001$), presión arterial sistólica ($p = 0.005$) y el tiempo de diagnóstico ($p = 0.048$) con el número de medicamentos estadísticamente significativo. **Conclusión:** el uso del *Brief Medication Questionnaire* mostró que las variables tienen correlación con el tiempo de diagnóstico y la adherencia influenciado para el tratamiento antihipertensivo. **Descriptor:** Enfermedades Crónicas; La adhesión medicamentosa; Salud del Adulto; Hipertensión.

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INTRODUCTION

The Chronic Noncommunicable Diseases (NCDs) represent a global concern to occupying the first places of mortality rates; therefore entail threats to human development, especially in underdeveloped and developing countries.¹ In Brazil, account for 70% of deaths and reach, especially vulnerable population groups, such as low-income and schooling.²

Among the chronic diseases two have prominent on the national scene, the systemic blood pressure (hypertension) and diabetes mellitus (DM), which together constitute the leading cause of hospitalizations in the Brazilian public health system and are related to the development of other chronic diseases and complications.²

This study emphasized the hypertension, which, like other non-communicable diseases, have prolonged course, multiple risk factor and thus requires constant monitoring and ongoing treatment, which causes difficulties in the continuity of therapy, and to avoid or minimize complications, there must be adherence to treatment.³

Adherence to therapy is defined and characterized as the level of agreement between the patient's behavior in relation to the habit of using the medications and follow the changes in lifestyle as recommended by health professionals. It is subject to the influence of several factors such as: demographic and social conditions, the nature of the disease, the therapeutic characteristics, the relationship with health professionals, as well as to the intrinsic characteristics of each person, factors that can determine the patient's behavior in relation to instructions given, causing it meets or not the prescription.⁴

The incentive for adherence requires agreement between professionals and patients in ways that make appropriate choices for the conduct of the treatment, since the effectiveness of adherence requires the patient's knowledge about its disease, so this has a strong voice in its care process, with able to opt by evaluating the consequences of the proposed schemes.⁵

Nurses, in particular, as members of the multidisciplinary team has a positive impact on treatment adherence, as they stay most of the time next to the patients, allowing

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develop key strategies such as education and ongoing support, can facilitate the process of adherence to treatment.⁶

In the care of individuals with hypertension, assessment of adherence to drug therapy becomes a necessary component for directing the care plan and to support the judgment of the achievement of the expected results. There are several methods that can be employed; however, the questionnaires are mostly used for presenting low cost and ease of application.⁷

In Brazil, in 2012 was held translation and evaluation of reliability and performance of the Brief Medication Questionnaire (BMQ) in the version of the Portuguese language, for another assessment tool medication adherence, the Test of Morisky, Green and Levine (TMGF) and concluded that the BMQ showed higher sensitivity and specificity, which motivated its use.⁷

Thus did the research question << What is the relationship between the variables value of systolic blood pressure (SBP), diagnostic time and the number of drugs to the degree of patient compliance with drug therapy? >>

OBJECTIVE

- Checking the correlation of the variables SBP, diagnostic time and the number of drugs to the degree of adherence to drug treatment.

METHOD

This is a descriptive correlational study with partial data from a project << Factors Predictive for nursing care management for patients with complications of Hypertension >>. The survey was conducted in the household of 100 patients four Health Units of the municipality of Curitiba Health District, Paraná, Brazil, from May to October 2013. The inclusion criteria were: adults, aged 18 to 60 years old, diagnosed with hypertension, who attended the activities of hypertensive program for the six months preceding the interview, and have received minimum score on the Mini Mental State Examination (MiniMental) as schooling. In this study were considered cutoff values of MiniMental: 13 points for illiterate, 18 for low and middle schooling and 26 for higher education. And, low and middle education are those with up to eight years of age study and above that is considered to be highly educated.⁸

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Data collection was through semi-structured interviews developed by the researchers, with sociodemographic variables and the presence of risk factors. To check compliance with treatment was used BMQ^{7,9}, which was analyzed in two ways: by score found in three areas: Beliefs, Regime and Remembrance, with the highest score or equal to one in any of these states positive potential for non-adherence to treatment; and the total score of the questionnaire, in which no positive response indicates adherence to treatment, a positive response suggests likely adherence to treatment, two answers and three or more positive respectively indicate likely poor adherence and low adherence to treatment.

Data were entered in Microsoft Excel, analyzed using the Statistical Package for

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Social Sciences 15.0 and presented in tables. To measuring the correlation between the variables: number of drugs, diagnostic time and PAS with adherence to treatment, we used the Spearman correlation coefficient.

The research project was approved by the Ethics Committee of the Sector of Health Sciences, Federal University of Parana, under number 07444512.0.0000.0102.

RESULTS

The study results show that 81% of patients were female, 94% were aged 40-60 years old and 39% had as profession home activities (Table 1).

Table 1. Distribution of hypertensive patients according to social variables . Curitiba-PR, 2013.

Variables	n	%
Age		
18 to 39 years old	6	6
40 to 60	94	94
Gender		
Male	19	19
Female	81	81
Profession		
Housewife	39	39
Retirees	17	17
Housekeeper/Domestic	14	14
Autonomous	9	9
Disease Aid/Pensioner	2	2
Other	14	14

The evaluation of the Body Mass Index (BMI) showed that 51,5% of patients were obese, with a higher rate than or equal to 30 kg / m2; 20% of patients had some complication being prevalent the presence of AMI (12%).

Among respondents 95% reported having a family history of hypertension; and in relation to the risk rating, 38% were low risk (Table 2).

Table 2. Distribution of hypertensive patients according to the variables BMI, SBP complications, family history and risk stratification . Curitiba - PR, 2013.

Variables	n	%
BMI		
<18,5	1	1
18,5 to 25	18,2	18,2
≥25<30	29,3	29,3
≥30	51,5	51,5
Complications		
Acute myocardial infarction	12	12
Cerebrovascular Accident	5	5
Chronic Renal Failure	1	1
Other	2	2
Family History		
Hypertension	95	95
Diabetes	64	64
Acute myocardial infarction	53	53
Cerebrovascular Accident	35	35
Chronic Renal Failure	12	12
RISK		
Low	38	38
Medium	25	25
High	27	27
Very high	10	10

In assessing patient compliance with drug treatment as the total score of the BMQ (Table 3), 59% of the sample achieved a score compatible with likely poor adherence.

In the field "Regime", which covers the difficulties the patient to name the medications and doses used, beyond the days of bug report, or doses⁹, 55% presented barriers in this study (score≥1).

In the field related to the "Beliefs", which concerns the presence or absence of drugs

that do not work well, or cause an adverse reaction⁹, 33% of patients demonstrated barriers (score≥1) and in the field of "Remembrance", which refers to the presence of a scheme of multiple daily doses and the reporting trouble remembering to take medication, 61% had a score compatible with non-adherence (score≥1).⁹

Table 3. Distribution of participants according to the variables of accession to drug therapy. Curitiba - PR, 2013

Score BMQ*	n	%
Regime (score)		
0	45	45
≥ 1	55	55
Beliefs (score)		
0	67	67
≥ 1	33	33
Remembering (score)		
0	21	21
≥ 1	61	61
Score BMQ*		
Adhesion	9	9
Probable adhesion	32	32
Probable low adhesion	42	42
Low adhesion	17	17

When the correlation between the time of diagnosis, number of medications and SBP with adherence to drug treatment through the BMQ (Table 4), there was a moderate positive correlation between the number of drugs with the BMQ (p = 0,001); SBP and with BMQ (p = 0,005). It was found still weak positive correlation between the time of diagnosis and BMQ (p = 0,048).

Tabela 4. Correlação entre escore de adesão medicamentosa BMQ e algumas variáveis. Curitiba - PR, 2013.

Variables	Spearman's coefficient	p value
Time of diagnosis	0,199	0,048**
Number of medication	0,325	0,001**
SBP	0,276	0,005**

***Values significant when $p<0,05$.

DISCUSSION

Most patients were female (81%), aged over 40 (94%), housewives (39%) or retired (17%), results that may have been influenced by the collection of data, as that this was done in the patient's home, during business hours, a period that most of the population works.

With respect to BMI said, there was overweight high rate (29,3%) and obesity (51,5%), similar to the study conducted in Mato Grosso do Sul in the prevalence of overweight and obesity were 33% and 23% respectively.¹⁰

Another study conducted in the metropolitan region of Campinas-SP with construction workers also revealed excess weight in this sample, and 33,1% were overweight and 6.5% obese.¹¹ And a study in a Health Unit of Curitiba - PR found that 38,4% of the sample were overweight, 30,8% ideal weight and 30,8% were obese Grade I.¹²

It was found that 20% of patients in this study had some type of complication were predominant Acute Myocardial Infarction (AMI) (12%), followed by cerebrovascular accident (CVA) (5%), which agrees with one study in Goiania - GO that used 103 records of patients seen in the Cardiology Ward in an Emergency Hospital and found that hypertension may have been responsible for the appearance of 48% of cases of coronary artery disease, Congestive Heart Failure (CHF) and AVE, confirming the influence of hypertension in the appearance of other diseases.¹³

Regarding family history of hypertension, 95% of the sample participants had family history, similar to the study of hypertensive registered in a Family Health Strategy in Para/PA, which showed that 74,34% of the patients had a family history of disease, strongly determines the occurrence of other cardiovascular health impact morbidities such as CHF and stroke.¹⁴

With regard to risk stratification 38% were classified as low risk and 27% high risk, this classification, according to the Brazilian

Society of Cardiology, depends on the blood pressure values, the presence of lesions in target organs, presence of cardiovascular and additional risk factors diseases. In patients with hypertension, the classic cardiovascular risk factors are: age (men> 55 and women> 65 years old), smoking, dyslipidemia (triglycerides $\geq$ 150 mg/dl, cholesterol> 100 mg/dl), diabetes and family history of premature cardiovascular disease. Along with these factors, are considered additional risk markers: fasting blood glucose, glycated hemoglobin, abdominal obesity, pulse pressure, pre-eclampsia during pregnancy history and family history of hypertension.¹⁴

When analyzing patients' adherence to drug treatment by the BMQ, it was found that 61% reported some barrier to "Remembrance", 55% for the domain "Regime" and 33% for the "Beliefs".

These results are in a study carried out in Londrina - PR, which used a questionnaire formulated by the authors and home visits to verify adherence to treatment and showed that among 146 (41,0%) patients that were non-adherent and partially adherent to treatment as alleged grounds for noncompliance was also oblivion, followed by the report of "find that the pressure is controlled" and the presence of adverse effects that were reported by 32,2; 21,2 and 13,7% of non-compliant hypertensive, respectively.¹⁵

By analyzing the correlation between the variables found to moderate positive correlation between the number of drugs with the attachment ($p = 0,001$), and the SBP with adherence to treatment ($p = 0,005$), which corroborates to the results in a survey on family health centers and clinics in Tubarão municipality - SC, who used the Moriski, Green and Levine test and found statistical significance between the number of prescription drugs and adherence to treatment ($p = 0,037$), and addition, members considered hypertensive patients had SBP (133mmHg) than non-compliant (138mmHg) .¹⁶

It was found also weak positive correlation between the time of diagnosis

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and adherence ($p = 0,048$), ie a diagnostic time implies lower adhesion, which corroborates the VI Brazilian Guidelines on Hypertension¹³, which states that the lack of adherence to treatment grows with time therapy mainly due to its chronic nature.

CONCLUSION

In assessing the overall score of the BMQ, more than half of the sample showed likely low compliance or poor adherence to drug treatment.

By correlating the BMQ score with time of diagnosis, the number of drugs and SBP, we obtained statistically significant results.

The BMQ questionnaire is little used in studies in Brazil, but possible to understand at what points the patients have difficulties to continue therapy as it provides subsidies through three dimensions (beliefs and system memory), thus facilitating the approach of nurses and other health professionals in the management of care to this individual.

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