







NURSING THEORY FOR PATIENTS' COMPLIANCE WITH THE TREATMENTS OF ARTERIAL HYPERTENSION AND DIABETES MELLITUS

Kalidia Felipe de Lima Costa¹ 
Alcivan Nunes Vieira² 
Sara Taciana Firmino Bezerra² 
Lúcia de Fátima da Silva¹ 
Maria Célia de Freitas¹ 
Maria Vilani Cavalcante Guedes¹ 

¹Universidade Estadual do Ceará, Programa de Pós-Graduação em Cuidados Clínicos em Enfermagem e Saúde. Fortaleza, Ceará, Brasil.

²Universidade do Estado do Rio Grande do Norte. Mossoró, Rio Grande do Norte, Brasil.

ABSTRACT

Objective: to elaborate and validate a Nursing Theory for Patients' Compliance with the Treatments of Arterial Hypertension and Diabetes Mellitus.

Method: this is a theoretical and methodological study that followed four stages, namely: development of the concepts; development and validation of proposals; structuring and contextualization of the theory; and content validation. The validity process took place in two rounds, from July to September 2018, with the participation of 7 expert judges in the field of Nursing theories and experience in monitoring hypertensive and diabetic patients.

Results: the Nursing Theory for Patient's Compliance with the treatments of Arterial Hypertension and Diabetes Mellitus is composed of 18 concepts and has adherence as a central element. The conceptual structure shows that the studied phenomena are inserted in open systems in constant interaction, in which changes in any of those involved can reflect on the others, directly impacting on patients' compliance the treatment and control of the aforementioned chronic diseases. The Content Validity Index of the first round was 0.79, and that of the second 0.97, showing a positive evolution of the altered proposals in compliance with the judges' recommendations. Content validation showed adequate internal consistency in the two rounds, with a Cronbach's alpha value of 0.79 in the first, and of 0.80 in the second.

Conclusion: the elaboration and validation of the Theory proved to be consistent with the proposal of clinical Nursing care for people with Hypertension and Diabetes, whose focus is adherence to their treatments.

DESCRIPTORS: Nursing theory. Nursing. Chronic disease. Hypertension. Diabetes mellitus. Patient compliance. Therapy. Validation studies.

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TEORIA DE ENFERMAGEM PARA A ADESÃO DE PESSOAS AO TRATAMENTO DE HIPERTENSÃO ARTERIAL E DIABETES MELLITUS

RESUMO

Objetivo: construir e validar Teoria de Enfermagem para Adesão de Pessoas ao Tratamento de Hipertensão Arterial e Diabetes Mellitus.

Método: trata-se de estudo teórico e metodológico que seguiu quatro etapas: desenvolvimento dos conceitos; desenvolvimento e validação de proposições; estruturação e contextualização da teoria; e validação de conteúdo. O processo de validade ocorreu em duas rodadas, no período de julho a setembro de 2018, e teve a participação de 7 juízes expertises na área de teorias de enfermagem e experiência no acompanhamento de pacientes hipertensos e diabéticos.

Resultados: a Teoria de Enfermagem para Adesão de Pessoas ao Tratamento de Hipertensão Arterial e Diabetes Mellitus é composta por 18 conceitos e tem a adesão como elemento central. A estrutura conceitual mostra que os fenômenos estudados estão inseridos em sistemas abertos em constante interação, em que as alterações em qualquer um dos envolvidos podem refletir nos demais, repercutindo diretamente na adesão de pessoas ao tratamento e controle das referidas doenças crônicas. O Índice de Validade de Conteúdo da primeira rodada foi de 0,79, e da segunda 0,97, constatando-se evolução positiva das proposições alteradas em atendimento às recomendações dos juízes. A validação de conteúdo evidenciou consistência interna adequada nas duas rodadas, com alfa de Cronbach 0,79 na primeira, e 0,80 na segunda.

Conclusão: a elaboração e validação da Teoria demonstraram ser coerentes com a proposta de cuidado clínico de Enfermagem à pessoa com Hipertensão e Diabetes, cujo foco é a adesão ao seu tratamento.

DESCRITORES: Teoria de enfermagem. Enfermagem. Doença crônica. Hipertensão. Diabetes mellitus. Adesão do paciente. Terapêutica. Estudos de validação.

TEORÍA DE ENFERMERÍA PARA LA ADHESIÓN DE PACIENTES A LOS TRATAMIENTOS PARA LA HIPERTENSIÓN ARTERIAL Y LA DIABETES MELLITUS

RESUMEN

Objetivo: construir y validar una Teoría de Enfermería para la Adhesión de Pacientes a los Tratamientos de Hipertensión Arterial y Diabetes Mellitus.

Método: se trata de un estudio teórico y metodológico que siguió cuatro etapas: desarrollo de los conceptos; desarrollo y validación de propuestas; estructuración y contextualización de la teoría; y validación del contenido. El proceso de validación tuvo lugar en dos rondas, entre julio y septiembre de 2018, y contó con la participación de 7 jueces expertos en el área de teorías de Enfermería y experiencia en el monitoreo de pacientes hipertensos y diabéticos.

Resultados: la Teoría de Enfermería para la Adhesión de Pacientes a los Tratamientos de Hipertensión Arterial y Diabetes Mellitus está compuesta por 18 conceptos y tiene a la "adhesión" como elemento central. La estructura conceptual indica que los fenómenos estudiados están insertos en sistemas abiertos en constante interacción, en los que cambios en cualquiera de los sistemas implicados pueden verse reflejados en los demás, con directa repercusión en la adhesión de los pacientes al tratamiento y control de las enfermedades crónicas antes mencionadas. El Índice de Validez de Contenido de la primera ronda fue de 0,79 y el de la segunda, 0,97, constatándose así una evolución positiva de las propuestas modificadas conforme a las recomendaciones de los jueces. La validación de contenido demostró consistencia interna adecuada en las dos rondas, con valores alfa de Cronbach de 0,79 en la primera y de 0,80 en la segunda.

Conclusión: la elaboración y validación de la Teoría demostraron ser coherentes con la propuesta de cuidados clínicos de Enfermería para el paciente con Hipertensión y Diabetes, con enfoque en la adhesión a su tratamiento.

DESCRIPTORES: Teoría de enfermería. Enfermería. Enfermedad crónica. Hipertensión. Diabetes mellitus. Adhesión del paciente. Terapia. Estudios de validación.

INTRODUCTION

The production of clinical Nursing care intended for people with Arterial Hypertension (AH) and Diabetes Mellitus (DM) requires involvement of the patients and an understanding of their health and disease context. It is up to the nurse, in the various areas of performance, to develop scientifically based knowledge and practices to address adherence to the treatments of these pathologies¹.

In the care context, it is identified that actions aimed at promoting health and preventing complications are intended for them, but with a fragmented and vertical character. This makes it urgent to develop knowledge capable of subsidizing the Nursing practices, articulating them with the public health policies and programs, as well as deepening the care for these patients in the health services².

One of the problems in caring for these people is low adherence to the treatment, which concerns the agreement among the behaviors admitted by a person based on the guidelines provided by health professionals. Factors such as the difficulty in the regular use of medications and the lack of understanding about the disease and the association between AH and DM hinder this adherence, due to polypharmacy³.

Therefore, care must respect and pay attention to the individuality of these people, their needs and values and, based on this conception, guide the clinical decisions⁴, providing greater patient participation and, consequently, greater achievement of the intended results.

In this perspective, clinical Nursing care needs to be supported by a theory that underlies the understanding of the systems that involve both the patient and the professional. Despite the several existing theories for Nursing care, a middle-range theory proposal is advocated that is closer to the context of Primary Health Care (PHC) and, therefore, can enable more effective care on the part of the nurse involved in this service, with a view to improving disease control and the quality of life of people influenced by this disease process.

For the theoretical and philosophical foundation of clinical Nursing care, the concepts that involve the systems stand out⁵⁻⁶. Among these conceptions, the Conceptual Model of Open Systems (CMOS) stands out, which places the individual inserted in three interactive systems: the personal, that is, with oneself, is the type of system understood by an individual in an environment; the interpersonal, in which they interact with groups; and the social, in the meeting of groups with special interests and needs forming societies⁵.

In addition to this model, it is important to mention the Theory of the General Systems that defines a system as a complex of interacting components; it considers that the organism is not a closed system, but an open one, in exchange for energy with its environment. From this theory, a new model or image of man as an active personality system emerges, which implies a holistic orientation, which seeks to place the psychophysiological organism in the focus of scientific interest⁶.

The theoretical and philosophical frameworks cited are subsidies for a new theoretical approach, as in the case of the middle-range theories and can support clinical care for hypertensive and diabetic patients, in addition to contributing to the development of Nursing as a science.

Nursing theories, in turn, can be classified as follows: metatheory, which refers to the philosophical basis of the discipline; major theory or macrotheory, which has a comprehensive conceptual structure; middle-range theory, in which it contains a limited number of concepts and is more focused than the major theories; and microtheory or practical theory, which is reduced in scope and explains a relatively small aspect of the reality⁷.

According to the classification, middle-range theories or mid-range theories are important and necessary, as they enable the establishment of bridges between Nursing theory, research and practice⁸. Thus, the following question arose: What is the structure and concepts of a middle-range theory for clinical Nursing care in addressing adherence to the treatments of AH and DM?

It is worth mentioning that it is possible to find in the literature other theories aimed at diabetic patients or other chronic diseases. However, these were built from the perspective of self-care.

In its turn, the theory presented in this study is part of the problem that involves the deficient and inadequate control of AH and DM due to low adherence to treatment, be it medicated and/or non-medicated. In this sense, the product of this study has the potential to direct clinical Nursing care to the singularity of patients with AH and DM, aiming at greater adherence to treatment and active participation, and also aiming at reducing complications, hospitalizations and mortality.

Thus, based on the aforementioned theoretical-philosophical framework, this study aims to build and validate a Nursing Theory for Patients' Compliance with the Treatments of AH and DM.

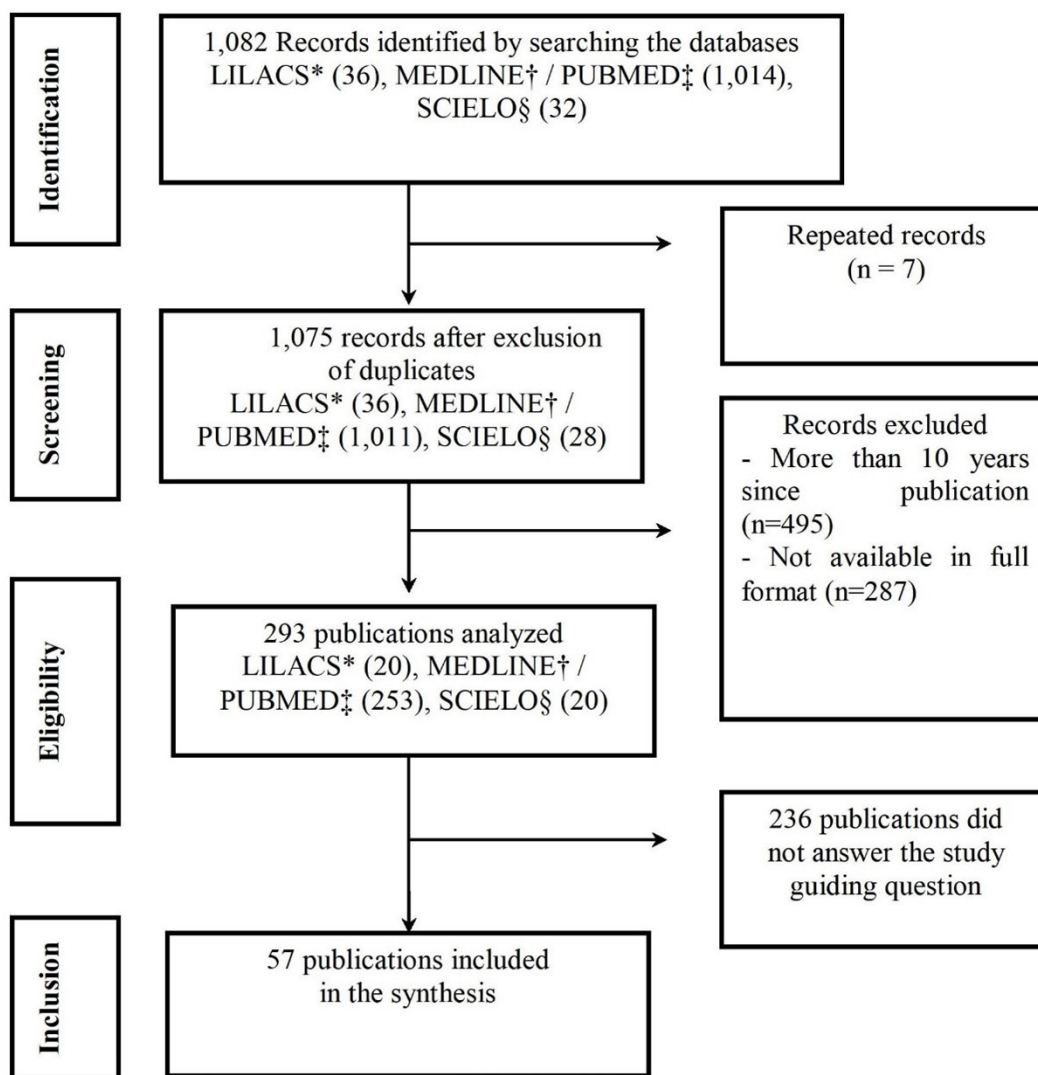
METHOD

This is a theoretical and methodological study developed from four stages:^{7,9} the first stage corresponds to the development of the concepts that make up the theory (specification, definition and clarification of the concepts to describe a phenomenon of interest); the second stage covers the development and validation of the relational statements that explain the relationships between the concepts and constitute the structure of the theory; the third stage involves structuring and contextualization of the theory components, including the identification of the assumptions and the organization of the links between the concepts and statements to form the theoretical framework; and the last stage corresponds to the test of the theoretical relations, through the process of replication and content validation.

In the first stage, for the development of the concepts, the process of literary synthesis was chosen, which corresponds to a review study; in this case, a scoping review, carried out to acquire new insights or new concepts⁷. The following research question was defined to guide the search for evidence: how are the phenomena involved in patients' compliance with the treatments of AH and DM defined?

Data search took place in March 2018, at the following sites: *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS), Medical Literature Analysis and Retrieval System Online (MEDLINE)/PubMed (PUBMED) and Scientific Electronic Library Online (SciELO). An advanced search was carried out with the Boolean operator AND and the cross-linked descriptors: "adesão do paciente/*Patient Compliance*", "hipertensão arterial/*Arterial Hypertension*" and "diabetes mellitus". The following were included: original publications on patients' compliance with the treatments of AH and DM; in the last 10 years (from 2009 to March 2018); available in full format; in Portuguese, English and Spanish. Figure 1 shows a flowchart adapted from the Preferred Reporting Items for Systematic Review and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist¹⁰. The choice of this methodology was to better systematize and make the selection process of articles clear.

The selected publications were read in full and information was extracted from them that contributed to the definitions of the concepts. The development of the concepts sought to describe, explain and predict patients' compliance with the treatments of AH and DM.



**Literatura Latino-Americana e do Caribe em Ciências da Saúde*; †Medical Literature Analysis and Retrieval System Online; ‡PubMedline; §Scientific Electronic Library Online

Figure 1 – Flowchart of the procedures for inclusion of the publications, adapted from PRISMA-ScR. Fortaleza, CE, Brazil, 2018.

In the second stage, the concepts were combined with each other, always in dyads, to compose the relational statements of the theory, indicating association/correlation when describing concepts that occur or exist together, which can be positive, negative or neutral. They can also indicate causality, when one concept considers the cause of the occurrence of another, in a dependent or independent way.

The relational statements, also known as proposals, describe the real world and allow for the creation of theories. This process followed seven phases: selection of the statement to be analyzed; simplification of the statement; classification of the statement; examination of the concepts in the statement for definition and validation; specification of the relationship between the concepts; examination of logic; and determination of stability.

Altogether, 152 proposals were built, and only those related to the concept of adherence, a total of 17, were selected because they represent the central phenomenon of the theory, being studied,

analyzed and validated. At the end, a general relationship between the concepts and statements was presented, called the theoretical framework of patients' compliance with the treatments of AH and DM.

In the third stage, the concepts and relational statements, formed from the central element of adherence, were structured and contextualized with the formulation of five systematic links, resulting in a coherent and formal theoretical structure, an integrated representation of the phenomenon.

The fourth stage corresponded to the theory's content validation by judges (experts). The search was made by means of the *Lattes* Curriculum, considering the score of criteria related to academic training and professional performance in the areas of Nursing theories and/or AH and DM. Returning the instrument filled in incompletely or incorrectly and after the deadline was adopted as exclusion criterion.

A minimum of six and a maximum of 20 were considered for the number of judges¹¹. In this study, based on the aforementioned score, it was sought to reach a number of 20 judges, for which 26 were invited. The validity process took place in two rounds, from July to September 2018. They were instructed to evaluate, as a whole, the instrument containing the elements of the theory and then analyze the items individually and, for this process, it was necessary to pay attention to the following requirements: theoretical relevance, consistency, clarity, objectivity, simplicity, vocabulary and clinical applicability¹².

The requirements were chosen, as they allowed assessing the theoretical importance of the items evaluated, according to the following specificities: if the content of the theory was deep; whether it was expressed in a clear, simple, unequivocal and unambiguous way; if objective understanding was possible and it expressed a single idea; and, finally, whether it was important for the population.

The instrument was built based on the concepts and relational statements of the Nursing Theory for Patients' Compliance with the Treatments of AH and DM and contemplated the relational statements between the concept of adherence, the central element, and the other concepts of the theory. For each of the 17 relational statements, three equivalent items were constructed, totaling 51 statements that represented the ideas of the theory.

The judges analyzed each of these statements at two different moments. In the first stage, the minimum Content Validity Index (CVI) was not reached. Thus, the recommendations for changes in the statements were analyzed and those considered pertinent, consistent with the findings of the review, were accepted. In the second round, the CVI was exceeded, reaching a result that validates the theory. In this process, the judges rated the seven requirements and classified them as: adequate; adequate with changes; and inadequate.

For calculation of the CVI, only the answers considered "adequate" were taken into account, which, after being added up, were divided by the total number of judges. The analysis of the agreement among the judges was given by the Intraclass Correlation Coefficient (ICC), by means of scores from 0.0 to 10.0 for each evaluated requirement. CVI and ICC values equal to or greater than 0.80 indicated pertinence and good quality of the item judged. In addition to these, the instrument's reliability was calculated through the analysis of internal consistency, using Cronbach's alpha reliability coefficient. It is possible to assert the reliability of the scale with coefficient values greater than 0.70¹¹⁻¹².

The research study met the ethical precepts of Resolution No. 466/2012 of the National Health Council.

RESULTS

In the first stage of the study, the concepts of the Nursing Theory for Patients' Compliance with the Treatments of AH and DM were defined through a review study. The theory has 18 concepts, namely: Nursing; health; environment; individual; adherence; participation of the patient; interaction; bond; behavior; coping; communication; chronic disease; control of AH; control of DM; Nursing

interventions; therapeutic nurse-patient relationship; family support; and social support. Of all the concepts, adherence stands out, since this constitutes the central element of the theory.

In the second stage of the study, the concepts were combined in dyads with the term “adherence”, a central element of the theory and composed 17 relational statements, also called proposals. These statements are presented in Table 1 together with the values obtained in the validation process. And in the third stage, the concepts were arranged in a logical manner and constituted five systematic links, as shown in Figure 2.

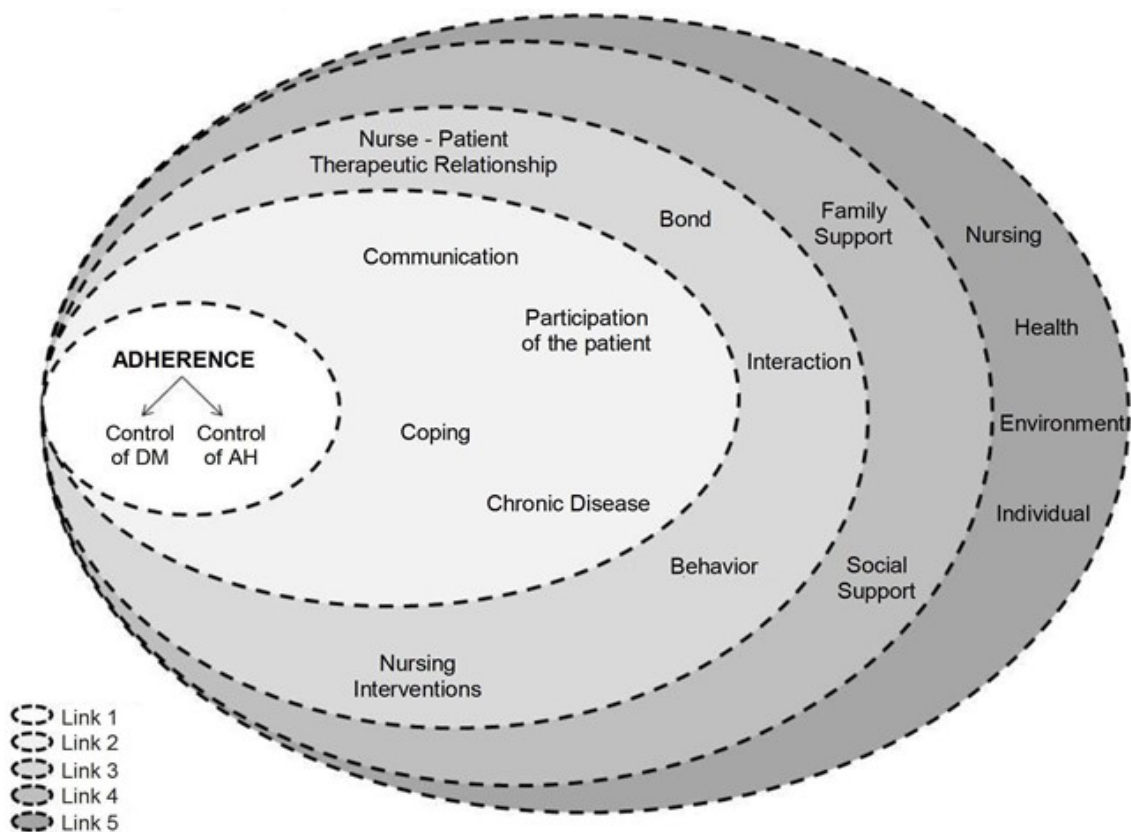


Figure 2 – Theoretical structure represented by concepts and links of patients' compliance with the treatments of Arterial Hypertension and Diabetes Mellitus. Fortaleza, CE, Brazil, 2019.

- Link 1 - People are inserted in open intercommunicating systems that interact with other individuals, groups and the environment promoting adherence to the treatment and control of AH and DM.
- Link 2 - People act in a participatory way, with the nurse, in the face of their treatments and define their behavior through their willingness to face the chronic disease, as well as the conditions available to them to achieve this adherence.
- Link 3 - The therapeutic nurse-patient relationship occurs through interaction and the bond established between them, being strengthened by effective communication, and contributes to the Nursing interventions.
- Link 4 - Patients and nurses interact with family and friends and are supported to achieve health goals.

- Link 5 - The conceptions of Nursing, health, environment and the individual permeate the entire process of people adhering to the treatments of AH and DM.

The concepts of the studied theory were classified according to the CMOS systems. In the personal system, the concepts that are relevant to understanding human beings as people in the process of adhering to the treatments of AH and DM were inserted: participation of the patient; behavior; coping; and chronic disease. In the interpersonal system, there are concepts that assist in understanding the interactions of human beings, which contribute to adherence: nurse-patient therapeutic relationship; communication; interaction; bond; and Nursing interventions. In the social system, there are the concepts in which nurses and patients interact in a dynamics of society, in which the process of change modifies the environment: family support and social support.

Regarding the relationship between the concepts, it was found that Nursing, health, environment, participation of the patient, interaction, bond, behavior, communication, Nursing interventions, nurse-patient therapeutic relationship, social support and family support are positively associated with adherence. The concept of chronic disease, on the other hand, is negatively associated with adherence since, in the face of a disease process, there is greater likelihood of a reduction in the person's willingness to adhere to a therapeutic plan.

With regard to the causal relationships, it is clear that the individual and their ability to cope determine adherence; and adherence, in turn, causes the control of AH and DM. Thus, when the individual is willing to face the obstacles and difficulties linked to the disease and its treatment, adherence occurs. Thus, achieving the results depends on how the patients cope with it and, therefore, their actions and behaviors, when favorable and appropriate to the established therapeutic plan, provide the control of these diseases, since blood pressure levels and hypoglycemic values are maintained in desirable levels.

In the fourth stage of the study, the theory was validated by judges. Initially, 26 nurses were invited, through an invitation letter explaining the study objectives and the requirements for participation. Those who accepted the invitation were sent a synopsis of the theory, the free and informed consent form, the assessment instrument, and a document for the characterization of the subjects. All contact and sending of documents occurred through electronic mail.

Of the 26 nurses, 12 agreed to participate and answered the instrument in the first round and 7 did so in the second. Therefore, the study sample consisted of seven experts. It is noteworthy that the sample reduction was due to the non-return of the participants' instrument in the second stage.

Of the seven judges, five females, with a mean of 40 years of age and 20 years of training, all work in teaching positions, in addition to assistance activities, and reported professional experience in the areas of Nursing theories, AH and/or DM. Table 1 presents the results of the CVI for each of the relational statements of the theory that were validated, as well as the global CVI for each of the two rounds.

Table 1 – Analysis of the relational statements in the first and second rounds of content validation of the Nursing Theory for Patients' Compliance with the Treatments of Arterial Hypertension and Diabetes Mellitus. Fortaleza, CE, Brazil, 2019. (n=7)

Relational statements	CVI*	Global CVI†	CVI*	Global CVI†
	1 st Round		2 nd Round	
Adherence is directly associated with Nursing to achieve goals	0.76		1.0	
Adherence positively interferes with the patient's health	0.57		0.95	
The environment directly influences the patient's compliance with the treatment	0.76		0.95	
The individual's actions determine adherence	0.43		0.95	
Adherence involves the participation of the patient	0.81		0.95	
The interaction between the patient and the nurse interferes with adherence	0.90		0.95	
The bond established between the patient and the nurse favors adherence	0.91		1.0	
Adherence is associated with the patient's actions and behaviors	0.86		1.0	
The achievement of goals depends on the individual's willingness to face their treatment, as well as on the conditions available to them to do so, being decisive for adherence	0.71	0.79	1.0	0.97
Communication between the patient and the nurse influences adherence	0.95		0.95	
Chronic diseases require patients' compliance with the treatment	0.95		1.0	
The patient's compliance with the treatment promotes the control of arterial hypertension	0.86		0.91	
The patient's compliance with the treatment promotes the control of diabetes mellitus	0.71		0.91	
The Nursing interventions influence patient's compliance with the treatment	0.91		1.0	
The therapeutic nurse-patient relationship stimulates adherence	0.90		1.0	
Family support encourages adherence	0.91		1.0	
Social support encourages adherence	0.66		1.0	

*Content Validity Index; †Global Content Validity Index.

In the first analysis, 7 proposals obtained a CVI below 0.80. These were indicated as adequate, with corrections and modified according to the judges' suggestions and considered good, pertinent and/or excellent with CVI values of 0.95 and 1.0 in the second analysis. These values show a positive evolution of the items changed in compliance with the recommendations of the first round, showing a good evolution of the instrument. Internal consistency was adequate in both rounds, with Cronbach's alpha values of 0.79 in the first round and of 0.80 in the second.

In relation to the results of the agreement among the evaluators regarding the requirements of the instrument, in the first round, it was found that clinical applicability obtained the highest ICC value, 0.885, and objectivity, the lowest ICC value, 0.608. In the second round, it was verified that pertinence obtained the highest ICC value, 0.973, and vocabulary, the lowest ICC value, 0.883, as shown in Table 2.

Table 2 – Analysis of the agreement among the evaluators regarding the requirements of the instrument in the first and second rounds. Fortaleza, CE, Brazil, 2018. (n=7)

Aspects	ICC*	95% CI†	ICC*	95% CI†
	1 st Round		2 nd Round	
Pertinence	0.791	0.631 – 0.882	0.973	0.952 – 0.984
Consistency	0.703	0.480 – 0.831	0.889	0.805 – 0.937
Clarity	0.757	0.575 – 0.861	0.922	0.863 – 0.955
Objectivity	0.608	0.312 – 0.776	0.904	0.831 – 0.945
Simplicity	0.801	0.651 – 0.886	0.945	0.903 – 0.968
Vocabulary	0.689	0.456 – 0.823	0.883	0.795 – 0.933
Clinical application	0.885	0.795 – 0.935	0.925	0.868 – 0.957

*Intraclass correlation coefficient; †Agreement index.

From the content validation of the Nursing Theory for Patients' Compliance with the Treatments of AH and DM, it was possible to reassess and rewrite some relational statements and concepts (health, chronic disease, control of AH, control of DM, and social support) and the final version of these elements was presented in this study already in the validated version. The judges' contributions made the theory more pertinent and consistent with the problem under study.

DISCUSSION

The theoretical structure shows the studied phenomena inserted in open systems as a complex of components in constant interaction. Thus, the discussion of the study reflects on the confirmation of the relational statements of the theory, in which changes in any of the systems involved can reflect in the others, directly impacting patients' compliance with the treatment and control of AH and DM.

Personal and social systems influence the clinical care developed for hypertensive and diabetic patients and the control of such diseases. However, the interpersonal system has a greater relationship with adherence to treatment. In this system, two people, such as the patient and the nurse, collaborate with each other to maintain a good health status.

It is understood that adherence is an act, a practice, an individual conduct, it does not occur through the other person. However, it can be influenced by the collective, for example, by Nursing. Thus, in the face of a proposed treatment, the nurse can act with the patient, guiding them about the disease and its complications in the short-, medium- and long-term, as well as the benefits arising from the achievement of health goals¹³.

The individual's involvement and participatory behavior in the face of the established therapeutic plan, collaboratively with the nurse, contribute to decision-making about one's own health and the achievement of goals¹⁴. In this context, the professional must negotiate priorities, monitor adherence, motivate participation, and stimulate the patient's effort in managing their treatment¹.

The interaction of the individual with the nurse can be favored with several strategies such as home visits, individual or group counseling, incentive to use digital technologies, used to send reminders or content about actions and behaviors, in the context of health promotion¹⁵.

The interpersonal bonds formed between the patient and the nurse contribute to dialog, to confidence in the information received and, consequently, to the continuity of the treatment and reinforce dialog based on the mutual interest of listening and being heard¹⁶. In this perspective, the bond, strengthened by mutual interaction and the harmony established in the monitoring of a therapeutic plan, bring great contributions to adherence to treatment and the achievement of health goals.

It is understood that people can act in the face of an established treatment and favor it, through the regular practice of physical activities, less consumption of alcohol¹⁷, as well as regularity regarding the times of medication use and attendance to consultations with health professionals¹⁸. Thus, proactively dealing with chronic diseases is configured as a strategy for coping with the disease and contributes to treatment adherence, health preservation and perception of well-being¹⁷.

The sharing of messages and information between the patient and the nurse, when it occurs in a clear and comprehensive manner, brings great benefits to the treatment and makes it possible to obtain satisfactory results, favoring adherence. In this sense, through effective communication and the provision of information, it is possible to strengthen motivation and commitment to change in a supportive, collaborative and empathetic manner, influencing the implemented response to care and contributing to an effective treatment¹⁹.

Chronic diseases have several characteristics, such as the fact that they are permanent, susceptible to periods of exacerbation and, when not properly treated, generate disabilities and loss of autonomy, conditions that tend to increase with advancing age. For these reasons, these diseases have high rates of morbidity and mortality and high hospitalization costs²⁰. Therefore, the better the patient's understanding of their chronic condition and their potential for self-care are, the greater the chances of achieving adherence to therapeutic regimens.

When the patient with AH and DM follows medication and/or non-medication treatment, adopting a healthy lifestyle, with a balanced diet, limited alcohol consumption (one daily dose for women and people with low weight and two daily doses for men), control of stress levels and regular practice of physical activity, blood pressure levels are maintained at desirable values²¹, as well as the following indicators: glycosylated hemoglobin, capillary blood glucose levels and target time are maintained at desirable values. In this way, the actions and behaviors agreed upon in the therapeutic plan promote the control of these diseases and the attenuation or delay of their acute and chronic complications²².

It is understood that Nursing interventions are tools that contribute to promoting health and preventing complications. Thus, efforts must be made for the individual to recognize the importance of self-care, taking into account their autonomy to choose the therapy that best controls the risk factors for the disease²³. In this way, the nurse plays an important role in monitoring and evaluating hypertensive and diabetic patients, and must act, together with the patient, to achieve goals.

The relationship between nurse and patient is a basic instrument of humanized Nursing care, strengthening the individual's skills in favor of their health and well-being²⁴. This interaction requires therapeutic listening based on respect and appreciation of experiences, life stories and world view¹³. Thus, when the nurse and the patient develop a therapeutic relationship, both participate and are involved with the care for therapeutic adherence and for achieving health goals.

The individual's behaviors and actions are influenced by family life habits, as well as by the culture in which they are inserted, contributing to the regular continuity of the treatment of chronic non-communicable diseases, such as AH and DM¹⁸. With this proposal, it is possible to reflect that family support is an important tool to instigate and support the patient in changing and maintaining healthy lifestyle habits and in the correct use of medications, providing better results to the established therapy.

Individuals living with chronic diseases tend to generate greater confidence in people close to them because they feel more welcomed and more optimistic about the therapeutic and clinical procedures; with that, they become more willing to adhere to the treatment¹⁷. In addition to these conducts, public policies and health campaigns can be particularly effective in building healthy lifestyles and lasting habits, contributing to this process.

The theoretical structure was delimited based on the concepts, non-relational statements and relational statements. It was validated by judges who verified the theoretical relevance and clarity of the theory, identifying whether the theoretical concepts can be operationalized, that is, if they can

be used in real situations, in order to support or refute the analyzed statement. At the end of this study, there is a new Nursing theory validated in its content to be applied in real situations and, then, to contribute to compliance of hypertensive and diabetic patients with their treatments and to attain health goals, favoring the management of their chronic conditions. Future studies will apply the theory in real contexts with hypertensive and diabetic patients, identifying its strengths and weaknesses.

The conceptual structure can be identified as open systems in constant interaction, in which changes in one of these phenomena involved in these systems can reflect in the others, directly impacting on patients' compliance with the treatments of AH and DM and, consequently, in the control of these chronic conditions.

Although there are controversies in the literature about the number of judges for content validation, as a limitation of this study, it is recognized the fact of having seven judges participating in the theory validation procedure. In this sense, it is suggested that further studies be carried out in this area to better support the minimum number of judges to guarantee the reliability of the validation results.

It is considered pertinent to advocate for interdisciplinarity in the care of people in chronic conditions of illness, but it is emphasized that the focus, in this study, was to subsidize the contribution of Nursing to the clinical care of this clientele. However, it is known that interdisciplinary and multidisciplinary work is important and necessary, and efforts must be added to make PHC effective as the ordering agent and coordinator of assistance in the health care network. Future studies can be thought to improve the theory, considering these aspects and other health professionals. Such verification was considered a limitation of the study.

CONCLUSION

In this study, a Nursing theory was developed which describes, explains and predicts the process of patients' compliance with the treatments of AH and DM. This theory was based on the CMOS theoretical framework and on the philosophical framework of the TGS. It portrays AH and DM, as they exert a high impact on the population's health and constitute a serious public health problem, mainly associated with low adherence to treatment.

The theory elaborated is composed of eighteen concepts and, of these, adherence is its central concept. Both were defined from a broad literature review that sought to examine the phenomena of interest to the theory. All the concepts were combined with each other to compose the relational statements of the theory. A total of 17 proposals were selected because they represent the central phenomenon of the theory, being studied, analyzed and validated. Content validation of the theory by judges occurred in two analysis rounds, with seven experts taking part in them; and the values of CVI, CCI and Cronbach's alpha were calculated in this process.

The Nursing Theory for Patients' Compliance with the treatments of AH and DM is an effective technology for clinical Nursing care. It provides a scientific basis for its practice, guiding it towards promoting greater adherence to treatment with the active participation of the patient, reducing complications, hospitalizations and mortality.

It is hoped that future research studies may come to apply the theory in the empirical contexts, as well as develop Nursing diagnoses and interventions for the application of the Nursing process with hypertensive and diabetic patients in order to contribute to adherence to treatment, achieve health goals and promote the control of these diseases.

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NOTES

ORIGIN OF THE ARTICLE

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CONTRIBUTION OF AUTHORITY

Study design: Costa KFL, Guedes MVC.

Data collection: Costa KFL.

Data analysis and interpretation: Costa KFL.

Discussion of the results: Costa KFL.

Writing and/or critical review of the content: Costa KFL, Vieira AN, Bezerra STF, Silva LF, Freitas MC.

Review and final approval of the final version: Costa KFL, Vieira AN, Bezerra STF, Guedes MVC.

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There is no conflict of interests.

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CORRESPONDING AUTHOR

Kalidia Felipe de Lima Costa

kalidiafelipe@uern.br

