



ORIGINAL RESEARCH ARTICLE

OPEN ACCESS

ADHESION TO MEDICATED TREATMENT OF USERS ACCOMPANIED THE HIPERDIA PROGRAM OF THE SCHOOL HEALTH CENTER OF MARCO IN BELÉM OF PARÀ BRAZIL

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ARTICLE INFO

Article History:

Received 11th December, 2018

Received in revised form

07th January, 2019

Accepted 09th February, 2019

Published online 31st March, 2019

Key Words:

Hypertension, Diabetes Mellitus, Drug Therapy, Patient Dropouts, Cardiovascular Diseases.

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ABSTRACT

Objective: to evaluate the level of adherence to the medicated treatment, of registered users in the Hiperdia program, a school health center of Marco, Belém-PA. **Materials and methods:** It is an observational, quantitative and cross-sectional research, where it was applied as a tool for data collection the test Morisky-Green, in 97 users in the Hiperdia. Statistical processing was performed in software Graf Table version 2.0 e BioEstat version 5.3. **Results:** It was evidenced that with the application of the test Morisky-Green in relation to treatment adherence: 55,7%, average, 39,2% high e 5,2% low, it was shown that mean adherence was the most prevalent, related to improvement of symptoms at the beginning of treatment and subsequently causing abandonment, forgetting to take your medication, as well as lack of knowledge about the benefits. **Conclusion:** Adhesion to treatment is essential to prevent complications that may compromise the quality of life of the individual, such as cardiovascular events. Stands out in this study with the greatest prevalence of treatment adherence average, showing that if you need to work in the professional-patient bond in order to clarify doubts and emphasize the importance of appropriate treatment to minimize the possible risks cardiovascular disease and improve the quality of life of these patients.

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Citation: Eliane Ferro Bahia da Silva, Gleyce Pinto Girard, Daniele Melo Sardinha et al., 2019. "Adhesion to medicated treatment of users accompanied the hiperdia program of the school health center of marco in belém of parà Brazil", *International Journal of Development Research*, 09, (03), 26658-26663.

INTRODUCTION

Cardiovascular diseases represent in Brazil and in the world the first cause of death in the population, reaching up to 30% of the causes of all deaths, surpassing all other causes such as,

external causes and infect-contagious diseases. So the cardiovascular diseases are composed by pathological circulatory events, which is mediated by risk factors such as Hypertension, Diabetes, physical inactivity, obesity, stress, smoking, Alcoholism, Dyslipidemias and genetics. Most risk

factors are modifiable, so related to the behavior of individuals, represented by means of modern life in this current century, in that each time the machines and equipment in lieu of the physical labor, requiring intellectual effort, causing increased stress and sedentary lifestyle (Girard *et al.*, 2018). Stands out for Hypertension and Diabetes Mellitus, which are chronic diseases that cause great impact on quality of life and are potential causes of cardiovascular events. The Hypertension is like a clinical entity multifactorial whose it characterizes for the levels presence tensioners elevated, when the metabolic and hormonal alterations were associated. He is considered one of the main factors of risk of morbidity and mortality cardiovascular. Due to this there is a preoccupation in enlarging and perfecting methods so much for diagnosis, how much for treatment of this disease. Undoubtedly it is a problem of global magnitude:

Affecting a quarter of the adult population (60 million in the United States and a billion people worldwide), high blood pressure is a leading cause of death in the world and the most frequent cardiovascular diseases, in addition to being the most common cause of a query outpatient clinic to a doctor it is the treatable factor more easily recognized of cerebral vascular accident, heart attack of the myocardium, heart failure, peripheral vascular disease, dissector aortic, atrial fibrillation and renal disease in terminal traineeship. Despite this knowledge and unequivocal scientific proof that the treatment of high blood pressure can prevent many of the complications that affect the life, hypertension is still undertreated. Effective treatment requires that the assistance provided by the doctor is enabled and that the targeted patient get involved actively in the treatment (Goldman, 2009, p.506).

Called of silent murderer it is a chronic disease an asymptomatic that silently injures the blood vessels, heart brain, and kidneys. (Goldman, 2009, p.509). The diagnosis is carried out from the blood pressure measurement:

The demarcation line that defines Hypertension, systolic values between ≥ 140 mmHg or diastolic ≥ 90 mmHg in measures carried out in the doctor's Office. The diagnosis should always be validated by repeated measures, in ideal conditions, on at least three occasions (Sociedade Brasileira de Cardiologia, 2010, p.8).

About Diabetes, there are two ways for sorting, classification in types of diabetes (etiological), defined according to specific processes or defects, and the classification in stages of development, including pre-clinical and clinical stages, the latter including advanced stages in which insulin is required to control or survival (BRASIL, 2006, p.11).

According to the Ministry of health:

Diabetes Mellitus appears today as a worldwide epidemic, translating into huge challenge for health systems around the world. The ageing population, increasing urbanization and the adoption of unhealthy lifestyles as sedentary, inadequate diet and obesity are the great responsible for the increased incidence and prevalence of the disease (BRASIL, 2006, p.7).

Type 2 diabetes is responsible for the majority of diabetes found in clinical practice. (Goldman, 2009, p.2013). The diagnosis of diabetes mellitus is evident when present classic

symptoms of polyuria, polydipsia and unexplained weight loss. In these cases, a random measure (or "casual") plasma glucose of 200 mg/dL or more is sufficient to confirm the diagnosis. A fasting plasma glucose measure for 8 hours (the night before) is more convenient; diabetes is established if glucose levels are 126 mg/dL or above on two different occasions. (Goldman, 2009, p.2016). An epidemic of diabetes mellitus is underway. Currently, it is estimated that the world population with diabetes is on the order of 382 million people and that has to be raised 471 million in 2035. About 80% of individuals with diabetes living in developing countries, where the epidemic has greater intensity (Milech *et al.*, 2016). In Brazil, the diabetes along with hypertension, is responsible for the first cause of mortality and hospitalizations, lower limb amputations and represents more than half of primary diagnosis in patients with chronic renal failure undergoing dialysis (BRASIL, 2006). Unfortunately, the level of adherence to the treatment whether pharmacological or not, he is still overlooked by most of the carriers of these chronic diseases. Such accession depends on three factors: the same be aware of your health condition and committed to the treatment, health professionals through the clarification and incentives and a supportive family (Tavares *et al.*, 2016).

Despite this knowledge and unequivocal scientific proof that the treatment of high blood pressure can prevent many of the complications that affect the life, hypertension is still undertreated or ceases to be treated in most affected individuals in all countries. (GOLDMAN, 2009, p.506).

Improve adherence to treatment is not easy, and needs a systematic review of interventions based on technological, educational and behavioral features of the population and health service, to be adapted to the characteristics and needs of the comprehensive population. The educational collective actions, called Hiperdia group, are a great tool for professionals, as it increases the adhesion and effectiveness of treatment and therefore the quality of life of patients (Alves and Calixto, 2012). Epidemiological studies have shown a direct relationship between independent blood levels of glucose and cardiovascular disease (Molitch *et al.*, 2003). Causing the clinical cardiovascular prevention strategy requires knowledge of the diabetic state (Brasil, 2013, p. 27). For this reason, it is important that the basic attention teams are attentive, not just for the symptoms of Hypertension and diabetes, but also for their risk factors (unhealthy eating habits, physical inactivity and obesity), as well as the knowledge in epidemiological population with such diseases. Health services in your organization, are intended to ensure access and quality people. The basic attention in your important assignment to be the gateway of the Health system, has to recognize the set of health needs and organize properly and timely responses, positively impacting health conditions (Brasil, 2013a). Like hypertension and diabetes constitute as chronic diseases, the health basic attention host, monitor and follow up the treatment of the patients have, however the difficulties faced by health teams to ensure the participation of patients and the community in the control and prevention, in addition to ignorance in epidemiological population of such pathologies, are alarming magnitude problems (Carvalho Filha, Nogueira and Medina, 2014).

A major current challenge for teams of basic attention is the health care for chronic diseases. These conditions are

very prevalent, multifactorial with coexistence of biological and socio-cultural determinants, and your approach, to be effective, necessarily involves the various occupational categories of the Health teams and requires the protagonist of individuals, their families and community. Therefore, become necessary actions and programs which make it possible to meet the epidemiological profile of hypertension and diabetes mellitus on population to that guide the public managers in adopting intervention strategies (Brasil, 2014, p.17).

The coordination of the care of a chronic disease requires regular and continuous contact with the carrier. The systems and information technology and computerized records allow the caregiver team access information and patient clinical data of agile and timely way. The availability of new technologies and information systems as tools to monitor the bearer of diabetes and hypertension is very important for the success of this task (Venancio, Rosa and Bersusa, 2016). The Hiperdia is intended for the registration and follow-up of patients with hypertension or diabetes mellitus met in ambulatory network of the unified health system, allowing you to generate information for acquisition, dispensing and distribution of medicines regularly and systematically to all registered patients. The system sends data to the National Health Card, functionality that ensures the unique identification of the user of the unified health system (Brasil, 2016).

This program promoted the reorientation of Pharmaceutical Assistance providing the continuous supply and free medicine, besides the monitoring of clinical conditions of each user, however, the mere creation of policies and programs for the Prevention of cardiovascular diseases may not be guarantee resolution of the problem. For this, it is necessary the user to proposed therapeutic scheme. The non-adherence to drug treatment is the main responsible for the failings in the treatment, the use of medicines and irrational aggravations in the pathological process (Carvalho *et al.*, 2012). For this reason it is necessary a persistent surveillance in relation to patients seen in the core network, with regard to adherence to drug treatment and the changing habits of life, as already mentioned, stocks in conjunction with regard to health and patient are important for an appropriate treatment and an optimal quality of life. In this respect the objective of this research is to evaluate the level of adherence to the pharmacological treatment of Hiperdia users in a school health center of Marco in Belém do Pará, Brazil.

MATERIALS AND METHODS

It is an observational, transversal research with quantitative approach, held at the School's Health Center landmark in Belém do Pará, Brazil, in the period from November to February 2015 2016, had as participants hypertensive patients and diabetics registered and accompanied by the Hiperdia program. The sample if quantified in 97 participants, as criteria for inclusion, the age of 18 years, diagnosed with hypertension or Diabetes by making use of pharmacological treatment and enrolled in the Hiperdia program, and to sign the consent form Free and clear. To exclusion criteria patients with mental incapacity, not registered in the Hiperdia and who do not perform pharmacological treatment. The data were collected in the waiting room, at a time when the patients attended to the Health Center for monitoring. To evaluate adhesion of drug

treatment used Morisky-Green test, which consists of 4 (four) questions and measures adhesion through the " attitudes " of the patient as the use of medicines. The test assesses through a score ranging from 1 to 4 patient compliance to drug treatment to which it is submitted, are 4 questions in which the Yes corresponds to score (0) and does not match the score (1), patients who add up to 4 points , are considered as having a high adherence to drug treatment, which add up to 3 to 2 points, are considered average and those add up 1 points or don't add up, are considered of low adherence to drug treatment (Eid *et al.*, 2013). For those who answered a Yes in any of the 4 (four) of test questions Morisky-Green, was applied two more questions to identify why your average or low treatment adherence medicine. The first question evaluates the patient's knowledge about your disease, from transmitted information, both about the importance, as the benefits of using the medication and the second issue assesses the attitude (motivation) of the patient in relation to your treatment, always resetting your medication before it is over. The patient information is stored in a database, encrypted and handled only by researchers at work, making the identification of the subject of research and minimizing the risks of maleficence (moral hazard).

It was formulated the informed consent of research participants, details of the research, its risks and benefits, in which is set out in the agreement to participate in the study, with the right to withdraw the same at any time of the research, ensuring the right to autonomy. The sampling trend assessment of qualitative variables was performed by Chi-square test, and when the restriction $npq > 5$ will be applied the testing G adhesion (Ayres *et al.*, 2007). Is previously set the alpha significance level = 0.05 (the survey margin of error set at 5%) for rejection of the hypothesis of invalidity. Statistical processing was carried out in software's Graf Table version 2.0 e Bio Estat version 5.3. This work has been submitted for approval by the ethics and Research Committee of the Institute of Health Sciences, Federal University of Pará, being approved on 02 March 2016, with approval number 1,434,371. Respecting the rules of research involving humans (CNS 466/12 Resolution) of the National Health Council.

RESULTS

Evaluation of treatment adherence (TEST MORISKY-GREEN)

Applied the test in 97 patients, evaluation of treatment adherence of patients enrolled in the Health Centre of Hiperdia School of Marco, Belém/PA, showed tendency (p-value < 0.05 *) for: patients who don't overlook take your medicine schedule 64.9%, never stopped taking the medicine because they have the feeling of momentary 91.8% improvement or worsening 91.8%. It was also observed that 52.6% never forgot to take medication, but these features did not show significant trend, therefore, for these variables was obtained from the p-value > 0.05 (not significant).

Test Morisky-Green (ATTITUDEX ADHESION)

The evaluation of patients' attitudes in relation to pharmacological treatment (Test Morisky-Green), proves your commitment and motivation in conducting medical guidelines. Have the habit of taking daily medication, in the correct time,

Table 1. Evaluation of treatment adherence of 97 hypertensive, diabetic or both, Hiperdia users, the School Health Center, the neighborhood of Marco, public health service in the metropolitan region of Belém, in the State of Pará. Year 2016. Through the application of the test of Morisky-Green

Measures of treatment adherence (Test Morisky-Green)	n	%	p-value
Have you ever forgotten to take the medications for your illness?			0.6846
Yes	46	47,4	
No	51	52,6	
Have you ever been careless with his medication schedule?			0.0045*
Yes	34	35,1	
No	63	64,9	
Have you ever stopped taking the medicines for your illness because you feel better?			<0.0001*
Yes	8	8,2	
No	89	91,8	
Have you ever stopped taking the medicines for your illness, on its own initiative, after feeling worse?			<0.0001*
Yes	8	8,2	
No	89	91,8	

*Chi-square trend (p > 0,05).

Source: Research Protocol.

Table 2. Test of Morisky-Green (attitudes) accomplished with 97 patients, Hiperdia School Health Center users of Marco, Belém/PA. Year 2016

High	Average	Low
	Adhesion to medicated treatment	
39.2%	55.7%	5.2%

without abandoning the treatment improves or worsens clinic, are practices that demonstrate a considered high. The test of Morisky-Green trend was observed for average adhesion 55.7% with p-0.0001 * value < which is statistically significant.

DISCUSSION

To evaluate adhesion to drug treatment of patients of Health Center school district of Marco in Belém, in the State of Pará was applied the test of Morisky-Green.

Adhesion to treatment is considered as the patient's health-related behavior, being more than the simple act of using prescription drugs. Different factors may influence treatment adhesion: those linked to patient (gender, age, ethnicity, marital status, education and socioeconomic status); those related to disease (chronicity, absence of symptoms and complications); the related health beliefs (perception of the seriousness of the problem, ignorance, experience with illness in the family context and self-esteem) and connected to treatment, which include quality of life (cost, side effects, diagrams complex therapy), those related to the institution (health policy, health service access, waiting time versus time availability) and the relationship with the health team (Lima, Meiners and Soler, 2010).

Still dealing with the factors related to the patient, we cannot fail to mention the influence that knowledge and attitude about the disease play on adhesion, once the individual is clarified in relation to the chronicity, non-drug measures and medicaments and the possibility of complications to your health from the underlying disease, make membership more consistent and effective. In relation to attitudes of patients in relation to the medicated habit 64.9% not careless in relation to the time to take your medication, 91,8% never ceased to ingest it it by feeling of improvement or worsening clinic and 52.6% claimed never to forget to take the medication, although the latter have been a variable that showed no significant trend. In this regard it was observed that patients of Health Center

school district of Marco, in Belém-PA, have your most an average adhesion to treatment medicated 55.7%, on the other hand, 39.2% of the patients had a high adhesion. In relation to other studies the regional, social and cultural difference shows similar results profiles now, discordant, but now that demonstrate in your all high adhesion (the recommended) the treatment is still a distant goal for most of our country. In a study of hypertensive patients in the Family House in Crystal Water Belém (PA), Sodré *et al.* (2015) noted that 53.05% of surveyed showed total clarification about the disease, which includes your definition, importance of medicated treatment and non-medicated, in addition to the aggravating factors. Already in relation to the analysis of hypertensive treatment front that examined the different membership levels met a 48.17% rate, the majority of patients who followed the medical guidelines.

In the study of Strelec, Pierin and Mion Jr. (2003) in São Paulo (SP) noted that in relation to factors related to patients, showed that 88% did not know the disease and that of the 41% of patients who used only an antihypertensive medicine .65 .9% were considered as less adhesion. Second Alves and Calixto, (2012) in your study in Campinas (SP) 75.6% of participants received information on the disease, treatments and possible complications and 70.3% of the patients reported treatment properly of the patients with hypertension evaluated by Souza *et al.* (2014) in Novo Hamburgo (RS) 96.9% had knowledge about the disease and 54.3% reported adhere to treatment with application of Morisky test, 54.3%. However, the data showed low adhesion to the treatment. The same profile observed when users were evaluated by the test of Morisky-Green, where the main causes for non-adhesion were neglect and loss of use of medicines.

And concludes

The degree of adhesion of users to drug treatment proved to be less than the percentage saying "recommended" (80%) by previous studies for both tests. Being consistent with several national papers and from other countries. Barbosa Lima found in developed countries as: Germany, Japan, United States and percentages of adhesion of 65%,

51%, 32.3%, respectively and the contrasting results as Brazil: 11% in Bahia and 66.6% in São Paulo (Carvalho et al., 2012).

Improve adherence to treatment is to prevent complications and aggravations of diseases, providing quality of life to patients (Lima, Meiners and Soler, 2010). Seeking to understand what led to 55.7% (average) and 5.2% (low adherence) of the School Health Center patients Belém (PA), being distant from the recommended (high adherence) achieved by 39.2% of patients studied. An evaluation was carried out for all those who missed at least one item of the four asked Morisky-Green test, being applied more two questions, one about if the same had been informed about the benefits and importance of using medication 86.4%, They stated that they were informed about the Act of forgetting to reset the medication where 84.7% denied forget. The objective was to evaluate the knowledge and attitude of these patients, respectively. Demonstrating that there is no justification for the lack of information and motivation for the adherence to the drug treatment for most people in the study.

Several studies report that the type of illness treated seems to have some relation to the adherence to the treatment [...]. The absence of symptoms, [...], is one of the factors cited for the non-adhesion, but also the perception of greater severity of pathology is associated with greater adherence, even on longer treatment (Leite and Vasconcellos, 2003).

According to an integrative review of Abreu et al (2017), showed that the higher the household income, the better the adherence to treatment, as well as patients who have already had some complication as a cardiovascular event, the adherence is better. It has been shown that the younger people who have healthy diet, therapeutic scheme easy and diagnosis less than ten years the adherence was higher. On the low-adhesion factors stood out: live in the North, Northeast and Midwest, low-income, smoker, depression, decreased mental and cognitive capacity, lack of knowledge, complexity in medicaments for being many, effects collateral, dissatisfaction by health services and medicines unavailable in the unified health system.

It is understandable that the average adherence verified in this research, only confirms the national studies, which show that live in the North is already a factor for medium or low adherence to pharmacological treatment. Therefore, need to improve the assistance to Hiperdia users, such as training and continuing education for professionals, educational practices with users and community, strengthening the link between professional and users with the goal of ensure adherence to pharmacological treatment, as well as clarifying all doubts and myths about hypertension and Diabetes Mellitus for users.

Conclusion

Hypertension and Diabetes Mellitus chronic diseases are of great importance to global public health, since as we have seen both play a significant role in the quality of life of people, resulting in high rates of mortality and limitations for patients, generating costs, wear and loss, personal and family. In addition to the impact on public health spending. Therefore, it is concluded that promotes research to literature's and professionals, the adherence to pharmacological treatment in the

North and considered average, providing data to plan actions for the improvement of adherence to treatment, subsidizing for professionals, scientific bases in order to stimulate them to practice of educational activities for the promotion of adherence to the treatment of hypertension and Diabetes, so ensuring the user right to health. It was evidenced that requires the use of strategies for improved adherence to treatment, leaving mainly of health professionals. The average adherence to treatment only increases the complications such as cardiovascular events, neuropathic and nephropathy, resulting in increased demand on tertiary attention, as well as increasing morbidity and mortality of the population. So it appears that the improvement in attention in the Hiperdia program, can influence and improve adherence to treatment, and as consequences may reduce the complications related to hypertension and Diabetes, as well as reducing costs and minimizing the demand on high complexity, being a form of promotion of the health of the population.

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