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LEVEL OF KNOWLEDGE OF ELDERLY PEOPLE ABOUT DRUG PRESCRIPTION: STUDY IN A BASIC HEALTH UNIT OF A MUNICIPALITY IN THE STATE OF CEARÁ, BRAZIL

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ABSTRACT

This study aimed to evaluate the knowledge of elderly patients in a primary health unit in the municipality ofPacajus, Ceará, about their drug prescription. To this end, the research followed the precepts of the inductive method, due to its empirical gender, based on field research. Regarding the objective, this is a descriptive exploratory study. Regarding the approach, it concerns quantitative analysis, whose technical procedure includes the survey of the leading drug prescriptions and the respective knowledge of these medical prescriptions by 115 older adults assisted in the aforementioned basic health unit. Regarding the data collection techniques, direct observation, interviews, and questionnaire-form were used. Regarding data analysis, descriptive statistics were used. It is concluded that more than half of the research participants had an insufficient or regular level of knowledge about the prescribed drugs. It is noteworthy that more than half of the older people investigated in this research are not prepared to take the medications entirely safely.

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INTRODUCTION

This research is directly focused on an analytical-descriptive process on the health of the elderly, taking as sample older adults attending a Basic Health Unit (UBS) in the city of Pacajus, metropolitan region of Fortaleza, Ceará state, Brazil. As explained in the title, the objective is to assess the level of knowledge of older adults about drug prescription intended for them. It is judicious to leave the post that, from the Brazilian legislation, the elderly is the person who has reached or exceeded the age of 60 years. Currently, in Brazil, it is estimated that there are 20 million people aged 60 and over. By 2025, this number will reach 32 million, moving the country from 16th to 6th place in the world in several older people (BRAZIL, 2013; GARCIA *et al*., 2005). This placement in the ranking *of* the number of elderly refers to a future impacting and challenging reality regarding the health of the elderly, given that "aging does not start suddenly at sixty years of age, but consists of the accumulation and interaction of bio-psycho-socio-cultural processes throughout life that may constitute factors of illness or promoters of health and well- being" (GARCIA *et al*., 2005, p. 538). Admittedly, these accumulative factors in the course of a human being's life make him inexorably prone to sickness. Thus, when a person reaches or exceeds the age of 70, some age-typical diseases more frequently affect him or her.

In general, elderly individuals have coexisting diseases, reaching, on average, six chronic conditions at 75 years of

> age, among the most common: hypertension, diabetes, arthritis, respiratory disorders, strokes, insomnia, various heart diseases, urinary infections, visual impairment, among others (GARCIA *et al*., 2005, p. 538).

Thus, it is of paramount importance that health professionals are sufficiently trained tomeet the needs and individualities of the elderly person, adding the possibility of helping to prevent and detect early possible complications that affect this public, arising, above all, from the long coexistence with Chronic Degenerative Diseases (CDDs) or also with Chronic Non Transmissible Diseases (NCDs), which develop through out life and are of long duration. The Pan American Health Organization (PAHO) defines aging asbeing.

> [...]asequential, individual, accumulative, irreversible, universal, non-pathological process of deterioration of a mature organism, proper to all members of a species, so that time makes it less able to cope with the stress of the environment and, therefore, increase its possibility of death (BRAZIL, 2006, p.8).

NCDs in the elderly may also sometimes be accompanied by acute complications, making it necessary to use three or more medications to treat the pathology and cure the symptoms, which can generate effects that are even more adverse. Due to this factor, the elderly themselves decide not to take the medication or also to medicate themselves with herbal medicines and without prescription. Thus, the theme above integrates the central part of this research proposal to be carried out promptly in a UBS located in the city of Pacajus, Ceará, Brazil. Several assumptions justify this work. First, the reports of nursing professionals, when they care for the elderly in the health service, are that the inappropriate and "exaggerated" use of medications used by the elderly has become routine, which causes or may cause severe and irremediable problems to this public in both the present and future (BRAZIL, 2012b).

These reports were and are crucial to the opportunity of this proposal because the debate is not frivolous; on the contrary, it glimpses to address an existing problem that affects a portion of the most vulnerable population, in need of care, drug education and individual attention. Another undeniable assumption is the fact that in Brazil, there is a progressive increase in the number of older adults, which has been increasing in recent decades. It is likely that by 2025, the Brazilian population will have "[...] increased fivefold compared to 1950, while the number of people over the age of 60 will have increased about 15fold. This increase will make Brazil the bearer of the sixth-largest elderly population in the world, in absolute terms" (NÓBREGA; KARNIKOWSKI, 2005, p. 310).

This prediction, when proven, will require a more consistent understanding, aiming to achieve better quality and higher quantity in the care of the elderly population. However, one cannot forget "[...] the fact that the elderly organism presents changes in its physiological functions that should not be disregarded, because they can lead to differentiated pharmacokinetics and greater sensitivity to both therapeutic and adverse effects of drugs" (NÓBREGA; KARNIKOWSKI, 2005, p. 310). Furthermore, polypharmacy and the use of non-prescription medications are related (m) to several factors, namely: psychological and cognitive factors, besides the fact that many older adults live alone without support and family guidance. It should not be forgotten that the aging process brings with it a higher amount of illness, which also requires a more significant amount of health services. Therefore, the risks of practicing polypharmacy increase, since due to the significant changes in physiological functions, such as "[...] less water in the body and liver blood flow, impairs [m] the metabolism of the body," negatively affecting the distribution and dilution of drugs (NOBREGA; KARNIKOWSKI, 2005, p. 310).

Medication use by the elderly (A) S: Care, attention and prevention

Older adults often use a large amount of medication. This is due to the higher prevalence of comorbidities in this population, which affect the central systems of the human organism, such as cardiovascular, respiratory, endocrine, osteomuscular disorders, neuropsychic, etc., as well as the physiological changes that occur with age, especially in the metabolism and excretion of drugs. Because of the various chronic diseases that affect the elderly, these individuals routinely seek health services and make use of high demand for medicines, sometimes necessary on many occasions. Still, when misused, they can generate significant health problems.

> There is also an undeniable factor as the therapeutic benefits obtained with the use of drugs started to be used in a discrepant and irrational way, following the market logistics [...]. Older adults make up 50% of people who use multiple drugs. In addition, it is common to find inappropriate prescriptions, doses and indications, drug interactions, and the use of medications without therapeutic value (MARIN *et al*., 2008, p. 1545-1546).

The variety of drug regimens, together with the lack of understanding, remembrance, decreased visual acuity and manual dexterity that occur in the older adult, contribute to a more significant number of errors in drug administration. "Moreover, it is added, in fact, a high rate of low education, which may contribute to misunderstanding and lead to the misuse of medicines" (Marin *et al*., 2008, p. 1546).

Threats to the association with the use of medicines are higher in the elderly compared to the younger population. "This is due to the specific changes in aging, which include fragility, which is attributed to drug interactions, side effects, and adverse reactions in the elderly population" (GAUTÉRIO *et al*., 2013, p. 703). Therefore, it is of paramount importance that there is full attention from the multi-professional team that works on the Family Health Strategy (FHS). Nursing professionals should ensure safety in the process of medication use by the elderly so that they interact with the physicians who prescribe the medication. For this, in addition to paying full attention to this more vulnerable public, professionals should seek to train themselves, through courses, new knowledge about medications, their benefits, as well as their harms, side effects, adverse reactions and drug interactions (GAUTÉRIO *et al*., 2013). It is necessary to ensure the appropriate use of all medications, both those that are prescribed and those that do not require a medical prescription, demonstrate to the elderly the names of all medications he is taking (POTTER; PERRY, 2013). Some actions may prevent the risk of an adverse drug effect in the elderly, for example: analyze the medications being used by the elderly at each consultation or each home

visit; examine potential interactions with food or other drugs; establish a link with the elderly and the family to better use all opportunities, so as to always be guiding them on all aspects of the use of medication; often many of them do not question the physician, the nurse or the pharmacist about the prescribed drugs and even the non-prescribed ones because they are not guided and also because of shame or fear (POTTER; PERRY, 2013).

In addition to strategies, it is necessary to act preventively. One of the ways to anticipate more severe problems due to improper and inadequate use of medicines by the elderly is to show and provide in writing to nursing professionals the drugs most used by the elderly with their respective medical prescriptions (NÓBREGA; KARNIKOWSKI, 2005). These techniques can be done in a way that the elderly group itself participates, as in a box of red color are the medications for such pathology; in another table, of blue color, are others, so that they can select and identify such drugs that were exposed during the strategy used, as a serial album with pictures and illustrative colors, as a way of evaluation and learning (POTTER; PERRY, 2013).

METHODOLOGY

The research was conducted in the Basic Health Unit (UBS) of Buriti, located at RuaAnacleto Sousa Maia, without number, Buriti, Pacajus, Ceará. Pacajus is a city located in the metropolitan region of the state of Ceará, in the Brazilian Northeast, about 52 kilometers from the capital, Fortaleza. Pacajus currently has a population of 61,838, according to the last census of 2010, but estimated at 70,911 for 2017 (BRAZILIAN INSTITUTE OF GEOGRAPHY AND STATISTICS, 2010). Inaugurated on August 19, 2011, the researched UBS works from Monday to Friday and has a multi-professional health team composed of two nursing techniques, two nurses and a general practitioner. The nurses perform prenatal consultations, childcare, prevention, and nursing consultation with hypertensive and diabetic patients that occur specifically on Thursday and Friday days in the morning shift, serving approximately 30 people a day, in the age range of 55 to 85 years, most of them female. Medical care with the general practitioner - from the government's health program "More Doctors" - takes place regularly. The alluded unit offers only prenatal nursing consultations and prevention of cervical and breast cancer. There are also specific days for home care with the multi-professional team, according to what is established by the ESF. This study can be typologically classified as an exploratory-descriptive study; exploratory because it seeks to provide greater familiarity with the problem, aiming to make it more explicit with the improvement of ideas and approaches from a peculiar reality; descriptive because it studies the characteristics of a group of people, necessarily describing age, sex, education, health status, etc. Regarding the procedural method, the survey prevailed through a quantitative approach.

The advantages of the researches that adopt the technical procedure of the survey and the quantitative approach are that there is direct knowledge of reality, economy, and speed, and the data that can be grouped in tables provide sufficient feasibility for descriptive or inferential statistical analysis. It should be remembered that the researches of the quantitative approach focus on objectivity through the use of standardized instruments, mathematical language, relationships between variables, etc. (FONSECA, 2002). This research is in line with the ethical principles related to research involving human beings, according to Resolution No. 466/2012 of the National Health Council, being submitted to the Ethics and Research Committee of the University of International Integration of Afro-Brazilian Lusophony (Unilab), receiving favorable opinion for its development, under process No. 2.359.313. The subjects were invited to participate in the study and signed the Informed Consent Form (ICF) before data collection began.

Data collection and analysis: Data collection was performed with the aid of an instrument (form) explicitly developed to evaluate the level of knowledge of prescribing in primary care. The device users based on a Presser model, composed of 12 objective and subjective questions, easy to apply and understand, and low cost (FRÖHLICH *et al*., 2010). This instrument addresses variables such as: prescribed medicine; use of the drug; dosage; administration times; time of application; mode of use of the medication; what to do when forgetting to take the prescribed doses and, moreover, knowledge about possible drug and food interactions; possible adverse and unpleasant reactions and information that the patient needs to take the medication.

The research participants were people with the following characteristics: older adults from 60 years of age who accepted to be part of the study, capable of communicating adequately, who had used one of the UBS medical services in the period of data collection and had received a medical prescription to comply it. Thus, 115 participants with the characteristics listed in the established period were part of the sample. As the studied population is less than 200, the sampling was not probabilistic, for convenience, in an attempt to reach the total population of older adults attended at the UBS, which amount constituted the study sample. After collection, the data were tabulated with the aid of Microsoft Office Excel software, and the results were organized with the assistance of graphs and tables. The analysis was performed using descriptive statistics, using absolute and relative frequencies. The evaluation of the correct or incorrect drug name, therapeutic indication, dose administered, administration schedules, duration of treatment, adverse events and drug interaction was verified as indicated by Fröhlich *et al*. (2010), considering, for example, the correct pronunciation of the drug name, agreement with the therapeutic class, indication about the acute or chronic nature of the disease and the enumeration of at least one adverse event.

The level of knowledge of drug prescription was obtained through a scale to weigh each item according to its importance for the safe use of the drug. Adding correct answers and considering the weights based on the methodology used by Fröhlich *et al*. (2010), a point was assigned (with weight two) if the user knew how to answer the name of the drug, the dose, the form of administration and the frequency of administration. Information not directly related to drug administration, but that could be important for treatment adherence, was assigned a point (without weight): {mathematical formula: score = [q1+q3+q4+q6 (x2)] + (q2+q5+q7+q8+q9)}, classifying the patients in one of the followingsituations:

- Less than eight points: insufficient level (the user is unable to use the drug safely);
- From eight to ten points: regular level (the user can use the drug safely in the absence of complications);

- Eleven points or more: right level (the user can use the medicine safely under any circumstances).

RESULTS AND DISCUSSION

Of the 115 elderly individuals approached, 100% agreed to participate in the study, and all of them presented a medical prescription. It is an elderly population, 71.3% female. Among the main drug prescriptions for the elderly participants in this research (Table 1), 88.6% used medication for the treatment of hypertension, 31.3% for the treatment of diabetes, 29.6% for the treatment of hypercholesterolemia, and 15% for the gastrointestinal tract.

Omeprazole. The name of the medication, therapeutic indication, doses, time of administration, duration of treatment, use, interaction with drugs, or food was considered slightly deficient in information (Table 2). What to do in case of forgetfulness and adverse effects was the most deficient information. Almost half of the population did nothing about forgetting their medication or did not know what to do (51.3%); more than half did not know or reported possible adverse effects on their drug prescription (74%). For the percentage of 26% of patients who responded correctly about the adverse impact of the prescribed drug, 80% affected the question. We also verified the average level of knowledge of users about their drug prescription (Table 3).

Table 1. Main medicines for the elderly

Medicines	n	%
Hypertension		
Alodipine	9	8%
Atenolol	10	9%
Caverdilol	2	2%
Captopril	13	11%
Enalapril	3	3%
Spirilactone	1	1%
Hydrochlorothiazide	33	29%
Losartan	30	26%
Metoprolol	1	1%
Nifedipino	1	1%
Diabetes		
Glibeneclamide	7	6%
Insulin R	7	6%
NPH Insulin	7	6%
Metformin	15	13%
Hypercholesterolemia		
Sinvastatin	34	30%
Other		
Aines	3	3%
AAS	17	15%
Amitriptyline	3	3%
Sodium Aledronate	1	1%
Calcium	10	9%
Diazepam	3	3%
Omeprazole	17	15%
Puran	4	3%

Source: Research data (2017).

Table 2. Results of the level of knowledge of drug prescription on the part of the studied users

	Questions about the prescribed medicinal product	Hit		Error		I didn't know	
		n	%	n	%	n	%
1.1	Name	79	69%	6	5%	30	26%
1.2	Therapeutic indications	115	100%	0	0%	0	0%
1.3	Dose	95	83%	9	8%	11	10%
1.4	Administration hours	98	85%	7	6%	10	9%
1.5	Duration of treatment	83	72%	3	3%	29	25%
1.6	How to use	95	83%	5	4%	15	13%
1.7	What to do if you miss one or more doses	56	49%	9	8%	50	43%
1.8	Interactions with medicinal products and/or foodstuffs	61	53%	30	26%	24	21%
1.9	Adverse effects	30	26%	33	29%	52	45%

Source: Research data (2017).

Table 3. Result of the average level of knowledge of users about their drug prescription

Level of knowledge	n	%
Insufficient	21	18,3%
Regular	46	40,0%
Good	48	41,7%
Total	115	100,0%

Source: Research data (2017).

Among the drugs that stand out in the control of pressure levels identified at the time of data collection were Hydrochlorothiazide and Losartan; diabetes: Metformin; hypercholesterolemia: Sinvastine; and gastrointestinal tract:

It was noticed that more than half of the research participants (58.3%) demonstrated an insufficient or regular level of knowledge pertinent to the prescribed drugs. Thus, it can be seen that less than half of the participants reached the "good"

level about the understanding of the medications they used. Fröhlich *et al*. (2010) obtained the results found in this study through a form that composed the methodology of the study. To analyze the level of knowledge of the prescription of medications as possible to classify the level of understanding of this public into three categories: insufficient, regular, and useful. The higher number of women interviewed than men may result from the fact that this public has more "familiarity" with the health service, this is justified because women seek care early on, such as gynecological consultation, prenatal, childcare, in addition to being more attentive to signs and symptoms of diseases. Men, still for cultural reasons, according to Gomes *et al*. (2007, p. 569), are "[...] associated with invulnerability, strength, and potency. These characteristics are incompatible with the demonstration of signs of weakness, fear, and insecurity that would put masculinity at risk. For these reasons, this public still becomes a minority seeking a UBS.

In relation to the class of drugs most used by the elderly, they were for the treatment of: hypertension, diabetes and hypercholesterolemia, clinical conditions that are part of NCDs, more prevalent in elderly people, who are prone to having more than one chronic pathology, so they end up constituting 50% of people who use multiple drugs. Therefore, it is necessary that health professionals are attentive to inform, guide, clarify doubts, and involve family members in their care. In addition to the use of various medications used concomitantly, the elderly may still have limitations, such as desmoria, visual impairment of hearing, etc., as a result of age, making it even more difficult to fully absorb all the guidance on their treatment and prescription medication. According to the results found, in which the main objective was to analyze the level of knowledge of the elderly regarding their drug prescription, more than half of the research participants demonstrated an insufficient or regular level of experience about the prescribed drugs. The questions about the name of the medication, time of administration, therapeutic indication, dose, duration of treatment, use, interaction with drugs, and food were considered little information deficient. One issue that drew attention was that 100% of the elderly knew why they were taking the drug treatment; even though they did not g*et al*l the other problems right, they all knew their pathology. One of the lines of a 93-year-old patient interviewed was: "I may not know the names of the drugs, but I know that it is for pressure, for cholesterol, and diabetes that it is high.

The most deficient questions were about what to do in case of forgetfulness of the medications. Many older adults responded as follows:

> I do not do anything, no! If I forget, I let it go when I remember or the other day. I do not know what to do if I forget to take it; they did not tell me about it.
> Sometimes, because it is many medicines, I end up confused if I have already taken the one at that time and, not to retake it, I will leave it for the other day.

From these main statements, one can conclude that the problem is real and existing: forgetting to take the medications for use in continuous treatment, according to the literature, can decrease the effectiveness of the medicine and even cause side effects, such as: forgetting to take drugs to control blood pressure of continuous use can cause a severe hypertensive crisis and generate severe damage to blood vessels in a short time. Another even more deficient question was to the adverse effects, which is even more worrying because, of the 115 interviewees, 85 of them did not know or answered wrongly with possible adverse effects of their drug prescription. Also, if many used gastric protectors as a result of the various medications used simultaneously, they still felt that no medication they used could have an unpleasant reaction or a possible adverse effect. "It's okay, no, because I've been taking it for many years and I've never felt anything"; "I don't know, I've never been told that it could hurt!". Thus, one can also see the lack of knowledge regarding relevant issues, because the lack of knowledge about them can generate harm to the patient's health well-being, failing to communicate possible complaints to the health professional and causing more significant problems and even abandonment of drug treatment.

Users who knew of the existence of adverse effects cited in relation to Captopril: "dry cough", especially in women, since the inhibitors of the angiotensin-converting enzyme (ACE), according to Gomes *et al*. (2009, p. 308), "[...] have as main side effects: the aforementioned and others as; change in taste and, more rarely, hypersensitivity reactions with skin rash and angioneurotic edema". Another adverse effect reported by the interviewees was the epigastric discomfort associated with acetylsalicylic acid, according to Muri *et al*. (2009, p. 188), "[...] besides being an anticoagulant, is also part of non-steroidal anti-inflammatory drugs (NSAIDs) that have effects on the gastrointestinal tract (GIT), causing nausea and abdominal pain".

Regarding the drug profile of this research, which was for the treatment of hypertension, hypercholesterolemia, and diabetes, when comparative data were sought in the literature, several articles demonstrated approximately the same results regarding the pharmacotherapy most commonly followed by the elderly. In a study conducted by Fleming and Goetten (2005), which aimed to identify the main medications used by the elderly, the information showed that, out of a total of 31 subjects, 16 (36%) used antihypertensives, behind only the use of psychotropics, 19 (44%) of the whole. Another research, carried out by Muniz *et al*. (2017), which had as one of its main objectives also to analyze the pharmacotherapeutic profile of the elderly, revealed results similar to those of this research regarding the pattern of drug treatment, with the results: hypertension more prevalent in 17.5% (167) of respondents, followed by rheumatism or arthrosis (8.6%), dyslipidemias (8.4%) and diabetes (7.6%). The drug profile found in this study, together with the search made in other articles, indicates explicitly treatment for NCDs, which develops throughout life and is of long duration, being more common in older adults.

Conclusion

This study, aiming to meet the proposed objective of assessing the level of knowledge of elderly people about their medications, conducted a survey of the leading prescriptions for elderly people of the Basic Health Unit (UBS) of Buriti, located at RuaAnacleto Sousa Maia, without number, Buriti, municipality of Pacajus, in the state of Ceará. The form instrument used showed that more than half of the research participants had an insufficient or regular level of knowledge regarding the prescribed drugs, although almost half of the respondents indicated a considerable right level. It is noteworthy that more than half were not prepared to take the

medications entirely safely. Many of the elderly had doubts, anxieties, and fears at the time of consultation with the doctor or nurse, for obvious reasons that were observed and reported during the period of data collection. Limitations due to age sometimes cause these older adults to attend consultations with only one objective: to renew their prescriptions and many arrive tired at the health unit, mainly due to musculoskeletal problems. The prevalence of older women in the health unit is also another problem because many of them still exercise their roles as homemakers, and the delay in the line of care in consultations makes them not expose their doubts and even possible harm that the medication used may be bringing.

The health professionals who work in PHC become co-responsible for the success of the proper use of the prescription of medications for the elderly. Given this, it is of the utmost importance to be able to respect the limitations and difficulties that this public may present. The multi-professional team of the UBS itself can create and establish strategies so that it can minimize errors and doubts that the old present. One of them can be to apply the main disabled issues that have been exposed in this work, also strengthening the less disabled. The form applied has some limitations, being many similar questions. Therefore, the answers were also the same and did not meet the objective of some items that became a little confusing for the interviewees, which can be adapted and reformulated according to the reality of each patient. The form can then be used as an instrument to monitor the prescription of medicines, helping doctors and nurses to identify the main difficulties that the elderly present when taking their medications effectively and efficiently.

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