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Use, Prescription and Dispensing of Drugs to Elderly Patients with Systemic Arterial Hypertension (SAH) and Diabetes *Mellitus* (DM) in the City of Amazônia, Brazil

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Abstract— Objective: To analyze the therapeutic process of hypertensive and diabetic elderly assisted in Hiperdia program UBS city of Ariquemes, Rondônia, Brazil. **Method**: The research model was a quantitative study, cross, which was used pre-structured form. The sample consisted of 196 patients with hypertension and / or diabetes between 60 and 92 years. **Results**: Predominantly female 66.9%, a consumption of 5.40 per individual medications, and frequent self-medication few physiological parameters described in the charts. Overweight and obesity prevalence in the elderly 78.9%, 67.5% with systolic blood pressure above 140 mmHg and 79.3% with greater than 125 mg glucose / dL. Statistical tests observing pool was applied between the amount of medication and self-medication ($p = 0.001$) correlation with significance between age and systolic

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blood pressure (p = 0.003) and body mass and age index (p = 0.018) was observed association between income and acquisition of medication or correlation between age and glucose values. Of the research subjects, 44% reported problems with the drug that can lead to lack of adherence to treatment, and future complications. **Conclusions**: 1059 drugs were used. 76% of patients acquire medication in at least 02 different sites may favor the therapeutic duplication. Among the most cited DRPs are stomach problems and discomfort, 17.4% have difficulty in recognizing, 15.1% are not taking the drug due to adverse accustomed and 69.4% use at least one self-medication. In the classification of physiological parameters was observed lack of data in the records, and 79.3% had blood glucose levels> 125 mg / dL and 67.5% with SBP> 140 mmHg, it was also observed association between the amount of medication and self-medication and correlation between age and SBP and BMI and age.

Keywords— Drugs. Arterial Hypertension. Diabetes. Dispensation. Elderly Patients.

I. INTRODUCTION

The current medicine seeks innovative and humane proposals in the healing process in the field of health education, assistance and policies aimed at promoting health. The importance of observation and individuality of human treatment is becoming more popular, since health involves biological, psychological, social and environmental, as well as habits and lifestyles, promotion and prevention suggest actions aimed at enhancing the patient as the primary contributor of healing itself. (Teixeira, 2007).

Improving the quality of life, technological advances, drugs and people's access to health systems in recent years have provided a significant increase in life expectancy. Population aging is a global phenomenon and in Brazil it is believed that by 2025 the elderly population will reach 34 million, causing an increase in demand and use of health services and medicines. (ZAMPARETTI; LUCIANO; GALLATE, 2008).

This group of patients is constantly the target of acute or chronic diseases, which leads to the use of several medications at the same time, causing the emergence of Drug Related Problems (DRPs) can cause non-adherence to treatment or inefficiency of the same. The very old body can favor the appearance of unwanted effects, or the failure to obtain therapeutic results, due to the reduction of several physiological mechanisms, including highlight the impaired renal and hepatic function. (CARVALHO, 2010).

Pharmaceutical care is considered worldwide as one of the basic elements of primary health care in getting the maximum benefits with minimal risk to the patient. Thus, we value the well - being of the same, generating information on the correct use of medicines, implementing a pharmaceutical care service, where the pharmacist how knowledgeable drugs plays a fundamental role, since currently, the medication is being treated as a simple commodity where the irrational use may bring serious consequences to the individual or collective health. (Araujo *et al*., 2008).

The elderly users of medicines to pharmaceutical care, being a practice developed in the context of pharmaceutical care, aims to provide individual or collective action in order to obtain a better quality of life. However, not intended to intervene in the diagnosis or prescription, which is doctor's competence, but rather to ensure that the patient has an efficient and safe pharmacotherapy avoiding future complications and lower the cost of treatment. (Meneses, SA, 2010).

Given that the DRP can lead to non-adherence to treatment and consequently to serious complications for the patient (resulting from chronic diseases that affect this age group) is a pharmacotherapeutic monitoring can identify early cases where the pharmacological treatment is not efficient, and thus facilitate the use of the medication by the patient, ensuring proper dispensing and patient care that makes use of polipharmacies.

II. THEORETICAL FOUNDATION

2.1 Primary care directed care of the elderly

The Basic Health Units (BHU) are the gateway to all the local health system, where primary needs must be met by approximately 80%.

For this to happen healthcare professionals should be able to care and provide services where access and the host are suitable for the population served. The increase in the elderly population has been a major challenge for public health. (PICCINI *et al*., 2006).

The new care model that proposes the Unified Health System (SUS) considers the principle of completeness, where the user is the system of the protagonist. It requires reformulation of care with practices aimed at closer relations between attendant and user, creating bond with the patient, which is not enough to have access to the service, but should allow the achievement of better results. It emphasizes the importance of qualifying this access in order to ensure that these people can be met by the health service, decentralizing the doctor to a multidisciplinary team, enhancing the quality of assistance aimed not only to meet, more listening and dialogue, be able to make decisions and guide or even intervene in accordance with the reality of the region or the patient. (Souza *et al*. 2008).

A major problem for the SUS implementation is related to the qualification of human resources, this area we must turn to a quality service with more humane techniques related to technological advances. Best results are

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achieved in places where the service organization and the skills of professionals reflect on solving health problems, contemplating the universality guidelines, integrity and fairness, where the host can be used as the health system strategy, able to enlarge positive results, favoring the user, relieving the public system for a better result in the curing process. (Carvalho *et al*., 2008).

2.2 Elderly patient and the aging process

In order that aging is a dynamic and progressive process, according to the World Health Organization (WHO), by 2025 Brazil will have the sixth largest elderly population in the world, meaning 13% of the population. This increase exponentially elderly reflects an increased demand for health services that alert you need to better understand the physiology of aging and understand the psychological, social and metabolic elderly as a resource for the prevention of diseases affecting this group of the population. (RIBEIRO; ALVES; MEIRA, 2009).

The aging process involves morphological, physiological, biochemical and psychological changes that favor the development of many pathologies. It is known that in a pharmacological treatment and compromise its effectiveness can result in unwanted reactions, hindering the healing process, the quality of life of the elderly. Public policies in the health field have been developing actions aiming to better care for this population, but the demand for health services impossible better attention, even a certain carelessness or negligence, due to misinformation or lack of preparation of health professionals for not knowing the natural aging changes. (SILVA; Fossatti; PORTELLA, 2007).

Among the changes that occur with the elderly, we can highlight the skin changes, musculoskeletal disorders that cause pain hampering their mobility, loss of bone density that deserves preventive care health teams, which when combined with limited mobility can lead to fractures falls; cognitive impairment even in mild cases, which can hinder basic functions of everyday life and social of the elderly, as well as sensory changes such as vision, hearing and smell that compromise the integration and interaction of the elderly with the environment. (RIBEIRO; ALVES; MEIRA, 2009).

From the pharmacological point the concern is for pharmacokinetic and pharmacodynamic changes that interfere with the action of drugs causing danger to the elderly patient, either by the action of the drug increased as not to obtain desired results, leaving unprotected elderly. Modifications those that occur due to the decline in muscle mass and the amount of body fluids causing a decrease in the volume delivered, the first passage of drug metabolism caused by hepatic impairment, as well as the decrease in filtration capacity and renal excretion, hindering elimination of metabolites, leading to accumulation of toxic substances to the human body. (Rocha *et al*., 2008).

2.3. Pharmaceutical care as an educational service in the therapeutic process

Pharmaceutical care was considered by the National Congress of Pharmaceutical Care and Drug Policy, occurred in Brazil in 1988 as a very broad set of procedures which should ensure access and proper use of medications, encompassing from research, production, storage , dispensing and orientation, and the pharmacist as technical and scientific knowledgeable of the areas focused on medication.

This condition, seen as fundamental both to ensure the population access to medicines that have proven efficacy and safety, developing clinical protocols and standardization of drugs and in monitoring treatment, promoting a pharmaceutical care service, and rational use of medication. (Araujo *et al*., 2008).

The pharmaceutical care includes educational services in the therapeutic process, standardizing a rational and safe drug therapy, individual levels and collective, with pharmaceutical orientation, promoting the implementation of a follow-up therapeutic drug (SFT), followed by evaluation of the results, being able to identify PRM. This proposal is an enabling strategy, especially for the elderly patient, which in most cases is chronic use of several medications and is more conducive to adverse reactions and drug interactions. (Meneses, SA, 2010).

The pharmacist's role is to make the evaluation of the prescription, even for the elderly involves a number of experts, and in some cases occur duplication of medications due to the variety of different brand names with the same active ingredient, when the patient feels good with medication it becomes more adept at handling. By promoting patient adherence to pharmacotherapy, it passes in need of a dwindling number of medication, using fewer health services, improving services and quality of life of patients. (Meneses, SA, 2010).

2.4 Tracking Pharmacotherapeutic / Method Dader - Pharmacist Professional practice

The SFT is a practice that requires a lot of dedication and responsibility of the pharmacist in obtaining Pharmacotherapeutic history of the patient, with the purpose to evaluate the health status of the patient, as well as the clinical pharmacology results and identify, prevent and resolve DRPs that are considered adverse clinical outcomes, drug related, interfere with obtaining the expected therapeutic response, or causing undesirable adverse effects. (Santos *et al*., 2004).

The FTS Dader method was developed by researchers at the University of Granada (Spain) in 1999 and is currently being used by pharmacists from various

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countries to assist in pharmaceutical care and obtaining satisfactory therapeutic results, based on filed concrete procedures, governed by rules acting to describe the status of each patient, where the clinical pharmacist and the doctor in consensus with the patient decide what to do on the data obtained in the interviews conducted by the pharmacist. This is a working tool that allows health care professionals improve the clinical treatment of the patient, solving or preventing the negative results of drug treatment. (CARVALHO, 2010).

2.5 Interaction drugs in elderly

Drug interaction (IM) is the process by which modifies the effect of a drug or the appearance of new effects as a result of interactions that may be caused by concomitant use of another drug with food, beverages or environmental chemical agent . These interactions may be classified as pharmacokinetics, affecting the process of absorption, distribution, metabolism or excretion, and as pharmacodynamics, and the change of the drug at its site of action, may cancel or enhance the effect of the drug. (Rossignoli, Guarido; CESTARI, 2006).

Pharmacists can help identify drug interactions and guide other health professionals through the dissemination of information on medicinal products. As age advances, the onset may occur in various conditions, contributing to the emergence of such interactions due to constant use of more than one drug. (Rossignoli, Guarido; CESTARI, 2006).

Drug interactions can be classified as desirable or undesirable, the first of which can reduce the therapeutic effect or to increase it, causing the appearance of adverse effects, no treatment compliance and jeopardize pharmacotherapy. Now, desirable effects are beneficial to the patient, and associations that can prolong the therapeutic effect, reduce the occurrence of adverse effects, increase patient compliance and treatment efficacy. Thus, a drug can bring benefits or problems to the patient, and the health risk possibility can cause the patient to more complex treatments or prolong hospital stay the same. (Matos *et al*., 2009).

The risk of occurrence of drug interactions increases with age and the number of drugs used, up to 85% in patients who use more than six medications. In elderly 19% of them receive combinations likely to these events, enhancing the problem of pharmacological elderly treatment, and the main drugs involved are often used in the treatment of common chronic diseases the oldest patient as digoxin, diuretics, antidiabetic agents, antiarrhythmics , warfarin, Nonsteroidal Anti steroidal drugs (NSAIDs), phenytoin, centrally acting analgesics, and antipsychotics. Some of these drugs have a narrow therapeutic window, depending on the interaction, expose the patient to toxic risk compromising patient safety. (LOCATELLI, 2007).

III. METHODS

In order to meet the therapeutic process of hypertensive and diabetic elderly assisted in Basic Health Unit carried out a quantitative research, the patients treated in Hiperdia program neighborhood UBS Sector 06, the city of Ariquemes, Rondonia, Brazil. This unit carried out the service 08 close quarters, assisted by two teams of the Family Health Strategy (ESF) which in addition to other functions to assist people with arterial hypertension (HBP) and Diabetes *Mellitus* (DM).

Of the 08 districts were selected 03 for the research. It is inferred that the population of the districts involved have some similar characteristics, such as socioeconomic conditions, in addition to these neighborhoods are those who hold the largest number of patients assisted by Hiperdia Program at UBS said the context of care. The availability of staff to work with the provision of data for the accomplishment of this study was also major item for the election of the target population.

The study population of elderly accompanied by Community Health Workers (CHWs) who attend the monthly group Hiperdia assisted by UBS, neighborhoods Sector were selected 06, Sector 08 and Sector 11, totaling 410 patients of which 315 are hypertensive and 95 diabetic , of these 196 patients were analyzed, using as age inclusion criteria less than 60 years, assisted by CHWs, who attend the group, be found in the residence within two attempts and agreed to participate, as exclusion criteria, patient They did not meet the inclusion criteria.

Data collection started after the project was approved by the Research Ethics Committee (CEP) of the Faculty of Education and Environment (FAEMA) on the opinion substantiated 704.163.Todos patients were informed about the study and signed the Term consent Form (ICF). Data collection lasted 78 days. The interviews were conducted during the group meetings and through home visits to patients registered who did not attend the meetings, which are the majority.

It is clarified that the data collection process occurred through the application of a form that was divided into three parts: demographic data relating to the identification, gender, income, education, marital stay; user perception about medication which quantified the drugs presented by patients through label, box, *blister* or revenues, as well as those mentioned by patients used without prescription, order acquisition and difficulties; It was obtained in the third step records data such as weight, height, body mass index (BMI) values of BP and blood glucose. Also in this instrument we have been addressed DRP involving the acquisition, use orientation, amount of drugs for the same condition and quantity of drugs with self-medication.

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How important addition was applied statistical test to establish an association between the user's income and the acquisition of medication, amount of medicine with self-medication and acquisition. Were also established correlation between age, systolic blood pressure (SBP), diastolic blood pressure (DBP) blood glucose and BMI. Finally the SBP, glucose and BMI were classified in order to observe the degree of risk of patients.

IV. RESULTS AND DISCUSSIONS

4.1 Socio-demographic characteristics

We analyzed 196 patients aged 60 to 92 years with an age range longer present between 60 and 69 years (65.8%), represented by 65 males and 131 females, it was found that 42.3% of patients are illiterate and only 4.6% have secondary education, 38 elderly do not have any income and women with higher prevalence (32), 58.7% are married and 66.8% receive some kind of benefit, as shown in Table 1.

Verification of female dominance is common to other studies, may suggest a greater awareness and care in relation to health, as well as increased demand for health services by women compared to men.(ROMERO *et al* , 2010;. PLACIDO; FERNANDES; Guarido, 2009; Santos *et al*. , 2005; FLOWERS; Benvegnù, 2008).

The fact that patients or not literate can significantly contribute to the adherence to treatment, patients with higher levels of education may better understand the prescription, find it easier to understand the pathology and medicines used, literacy contributes to a reduced risk offered by inadequate drug treatment and prevent late complications caused by chronic diseases. (SANTOS, OLIVEIRA; COLET, 2010).

Second Kings and Ventura (2013) low levels of education reflects directly on the patient's quality of life to be related to a low financial income, as well as the above study, it was observed that levels of education are influences of early work primarily in crops by need of assistance in family income.

According to Bos and Bos (2004), the impact of income mainly the elderly patient with chronic disease, is a very significant influence on the choice of health used being public or private system, seniors with lower incomes are more dependent on the public system. They found that individuals with higher levels of education tend to use more private system due to greater awareness of the public system and demand for more sophisticated alternatives, which corroborates with our research.

Regarding marital status a study in Montes Claros in Minas Gerais noted that married seniors showed no difficulties in medication due to the assistance of the spouse when one partner has some difficulty. (Silva *et al*., 2010).

Table.1: Distribution of sociodemographic variables according to gender, absolute and relative numbers of elderly Hiperdia group.

Variables	N total	% Total	Men's		Women	
			N	%	N	%
Age (Years)						
60 – 69	129	65,8	34	17,3	95	48,5
70 – 79	46	23,5	18	9,2	28	14,3
80 – 89	20	10,2	12	6,1	08	4,1
>90	01	0,5	01	0,5	00	00
Totals	196	100	65	33,1	131	66,9
Schooling (years of study)						
Illiterate	83	42,3	27	13,8	56	28,6
Literate	05	2,5	04	2,0	01	0,5
1 -4 year Elementary School	83	42,3	31	15,8	52	26,5
5 -8 years Elementary School	16	8,3	02	1,0	14	7,2
High school	09	4,6	01	0,5	08	4,1
Totals	196	100	65	33,1	131	66,9
Income for the elderly (minimum wage)						
No income	38	19,4	06	3,1	32	16,3
Up to 01 salary	122	62,3	45	22,9	77	39,4
Up to 02 salary	33	16,8	13	6,6	20	10,2
> 02 wages	03	1,5	01	0,5	02	1,0
Totals	196	100	65	33,1	131	66,9
Marital Status						
Singles	09	4,5	04	2,0	05	2,5

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Married	115	58,7	46	23,5	69	35,2
Widowed	47	24	05	2,5	42	21,5
Separated	25	12,8	10	5,1	15	7,7
Totals	196	100	65	33,1	131	66,9
Receive benefit						
Yes	131	66,8	46	23,5	85	43,4
No	65	33,2	19	9,6	46	23,5
Totals	196	100	65	33,1	131	66,9

4.2 Main conditions presented by patients and medications used

From the analysis of the data cited patients take medicines to 32 different pathologies, among which the most frequent were hypertension (92.9%), hypercholesterolemia (34.2%) and DM (30.1%). The higher prevalence of cardiovascular diseases and metabolism is related to the fact that patients are part of the group of elderly hypertensive and / or diabetic the results are similar to other national studies. (Pereira *et al*., 2012). There was a higher incidence among women of hypercholesterolemia, gastric disorders and depression compared to men have also been observed that use of these five treatments for prostatic hyperplasia. Table 2 shows the main morbidities according to gender.

Table.2: Description of the major pathologies cited by the elderly Hiperdia group.

Pathologies	Patients	% Total	Men's	% (M)	Women	% (F)
Systemic Arterial Hypertension	182	92,9	57	87,7	125	95,4
Hypercholesterolemia	67	34,2	17	26,2	50	38,2
Diabetes Mellitus	59	30,1	21	32,3	38	29,0
Cardiac diseases	24	12,2	08	12,3	16	12,2
Gastric problems	16	08,2	01	1,5	15	11,5
Depression	12	6,1	01	1,5	11	8,4

It found that patients using 01-13 medications comprises a total 1059 medicines for the entire group studied (Table 3), an average of 5.4 medications per patient, ranked 177 in pharmaceutical specialties, and 845 are of continuous use and 214 of occasional use, were classified in the occasional group all drugs that were not administered daily even being frequently used.

In 2008 a study of elderly entered into a support group in Porto Alegre / RS found a total of 5.34 medications per patient data similar to those presented in this study. (COLET; MAYORGA; AMADOR, 2008).

Among the drugs observed a higher intake of antihypertensive (241) since 92.9% of patients are hypertensive and many of them use more than one drug of this class, analgesics (136) due to reports of frequent headaches and muscle aches diuretics (125) to aid in reducing hypertension, antidiabetics (96) greater incidence of type 2 diabetes drugs most frequently used are shown in Table 3, and losartan, hydrochlorothiazide and dipyrone the most widely used drugs.

Regarding the use of polidrugs there was a finding that 53% of patients using 05 to 10% drugs and 4 make use of more than 10 drugs (Figure 1). These findings are commonly found in Brazilian literature and other countries, as the elderly are constantly affected by concurrent disorders in different organs or systems, making them easy targets for the use of several drugs at the same time. (Aguiar *et al*., 2008).

It also noted the occurrence of major polimedications among women a proportion of 63.6% of women use 05 or more medications, and among patients of male 44.6% of them use more than 05 drugs. A study by Pereira *et al*. (2012) with hypertensive and diabetic patients in Minas Gerais observed increased use of drugs among women due to increased demand for health services for them.

It is inferred that the concomitant use of several medications may favor the emergence of DRPs, especially in elderly patients, hindering adherence to treatment due to several daily doses, use of drugs with low rates therapeutic and other factors can also lead to events of rise undesirable adverse including hospitalizations for drug interactions. In a study conducted in Tubarão, Santa Catarina, it was observed that cardiovascular problems such as hypertension, endocrine as diabetes, central nervous system and depression are the main contributors to the polimedications. (GALLATE; SILVA; TIBURCIO, 2010).

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On the acquisition of medication of 196 patients 18 (9.2%) to buy all medication because they cannot get any by the public, 16 (8.2%) acquire exclusively by the Popular Pharmacy Program (PFP), 13 (6.6%) patients can take all medications at UBS, and most (149), ie 76% for all drugs used takes the medication in two or more locations, namely UBS through the public system, the PFP or buy in private pharmacies at least one of the drugs, among all patients 25 (12.8%) reported getting at some point without taking the medication when not found in public, for lack of financial condition or do not have the prescription with which can acquire the People's Pharmacy. In Table 4 one can see the profile of acquisition of the patients' medication Hiperdia group.

When comparing the acquisition of the drug with the income was not observed in the statistical analyzes significant differences in acquisition among even groups because it is a population where the majority receive up to minimum wage and attends the same group of health care.

Table.3: Description of the amount of drugs most frequently used and their therapeutic classes.

Total Drugs	%	Class of medications	Most used drugs	Total	%
241	22,8	Antihypertensives	Losartan	76	7,2
			Enalapril	44	4,1
			Captopril	37	3,5
			Others	84	8,0
136	12,8	Analgesics and antipyretics	Dipyrone	80	7,5
			Paracetamol	54	5,1
			Others	02	0,2
125	11,8	Diuretics	Hydrochlorothiazide	110	10,4
			Others	15	1,4
96	9,1	Hypoglycemic agents	Metformin	47	4,4
			Glibeclamide	39	3,7
			NPH Insulin	09	0,9
			Other	01	0,1
73	6,9	Antilipemics	Simvastatin	56	5,3
			Ciprofibrate	09	0,9
			Others	08	0,7
85	8,0	AINES	Diclofenac sodium	39	3,7
			Ibuprofen	21	2,0
			Others	25	2,3
59	5,6	Antiplatelet	AAs 100mg	59	5,6
52	4,9	Anti-acid and Antacids	Omeprazole	16	1,5
			Others	36	3,4
23	2,2	Cardiac Protectors and Antiarrhythmics			2,2
18	1,7	Vitamins			1,7
23	2,2	Anticoagulants and blood circulation			2,2
13	1,2	Prevention of Osteoporosis			1,2
11	1,0	Antimicrobials and antifungals			1,0
104	9,8	Others			9,8
1059	**100**	**Total**			**100**

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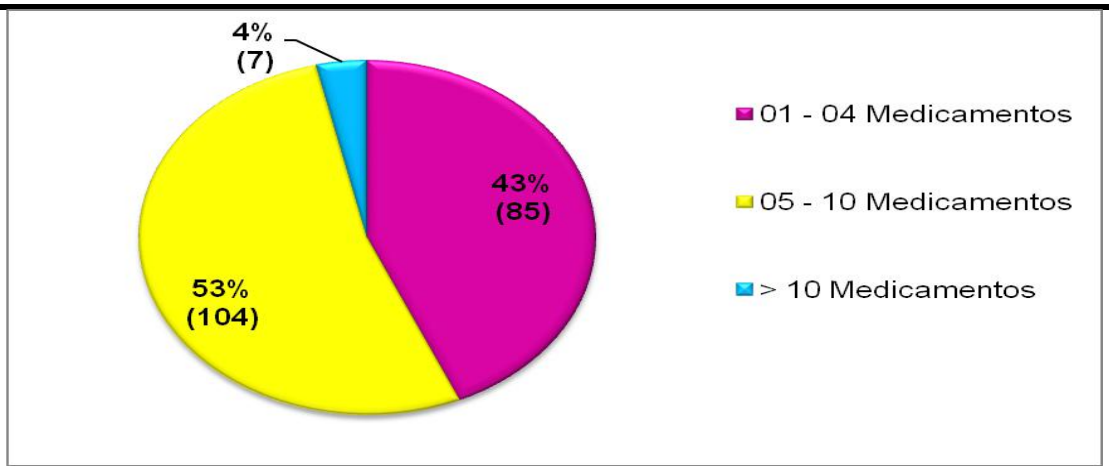

Fig.1: Number of drugs by patients.

Table.4: Relationship patients about medication acquiring form according to income

	Total Patients	Purchase all Medication	PFP	UBS	More of 02 places
No income	38	03	03	02	30
Up to 01 salary	122	08	11	07	96
Up to 02 wages	33	07	02	04	20
> 02 wages	03	00	00	00	03
Totals	**196**	**18**	**16**	**13**	**149**

Given that 42.3% of the population is illiterate as shown in Table 1, the purchase of medicines in various locations can contribute to therapeutic duplication due to the wide variety of medicinal and pharmacological associations existing in the market.

It was found that among respondents 30.60% of patients acquire neither medication use without medical supervision since 136 (68.4%) reported the use of at least one self-medication, as shown in Figure 2.

4.3 Elderly patients and self-medication

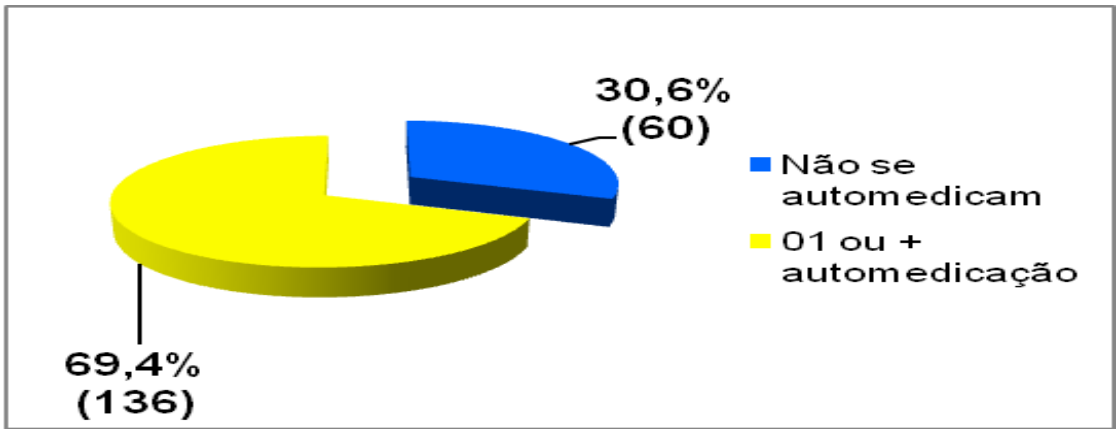

Fig.2: Number of patients for self-medication

Figure 3 shows the administration profile of the medications used without a prescription, 52 are used daily, 05 drugs on a frequency of 02 or more times per week, 30 weekly and 125 used only when necessary, totaling 212 self-medication.

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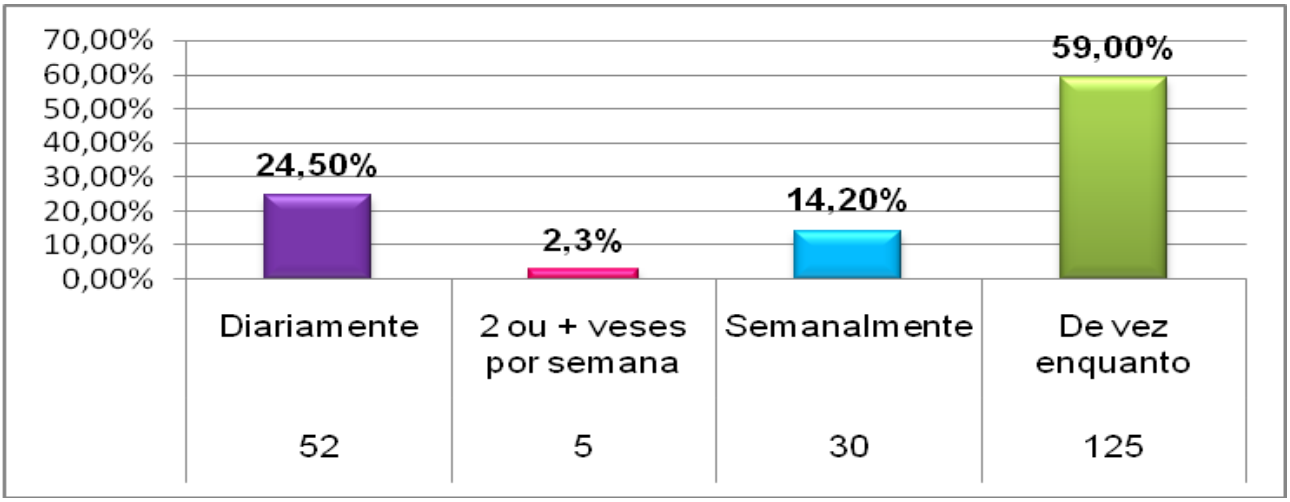

Fig.3: Quantity of self-medication according to the utilization profile

It was verified the practice of self-medication mainly of analgesics, anti-inflammatory and medications for the gastrointestinal tract, being 54 (25.5%) for headaches and 81 (38.20%) for pain in general mainly muscular pains, 20 (9.4%) for gastric discomfort, 10 (4.7%) vitamins and 47 (22.2%) for other health problems. Figure 4 shows the use of self-medication.

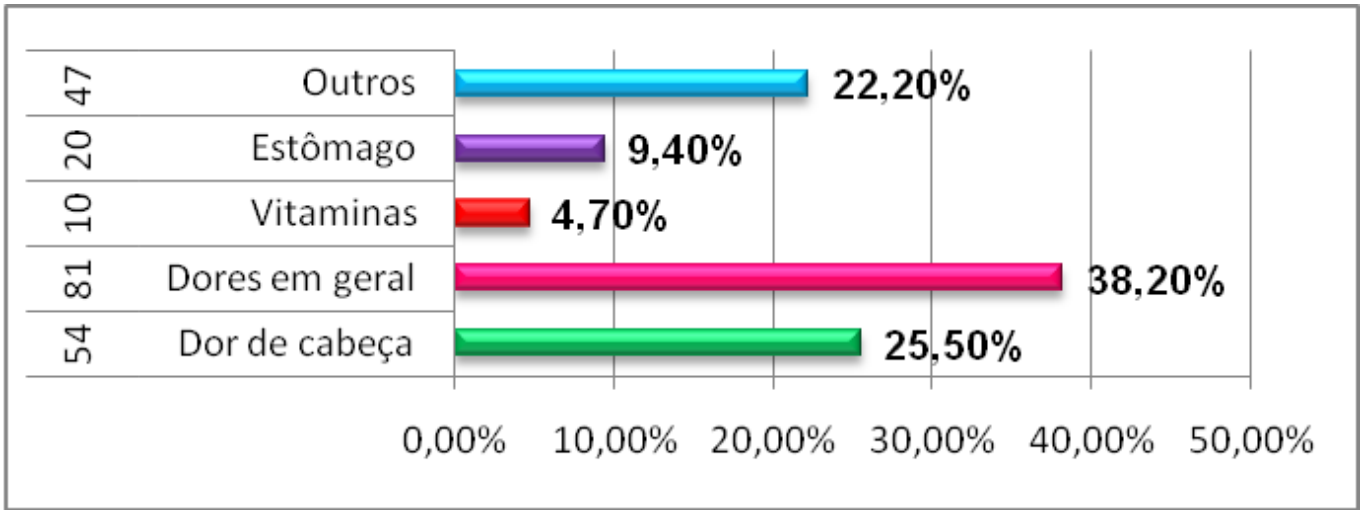

Fig.4: Demonstration of the use of non-prescription medicines

In a study carried out with elderly people in the south of Brazil, 80.5% of the patients were self-medicated, and analgesics were the most used therapeutic class, considering simple health problems and because they are over-the-counter, according to the authors, self-medication can cause problems for the elderly, since the choice is not always appropriate to the symptomatology, and by the use of polipharmacies, which may cause adverse reactions or undesirable drug interactions. (CASCAES; FALCHETTI; GALATO, 2008).

It was found association between the amount of medication used and self-medication, according to the analysis of Figure 5, it was noted that there is association () between the variable amounts of medications and self-medication. The most significant values are between 03 to 08 drugs with a higher proportion of self-medication, among patients with more than 10 medications it is possible to note that patients use more than 03 self-medication.

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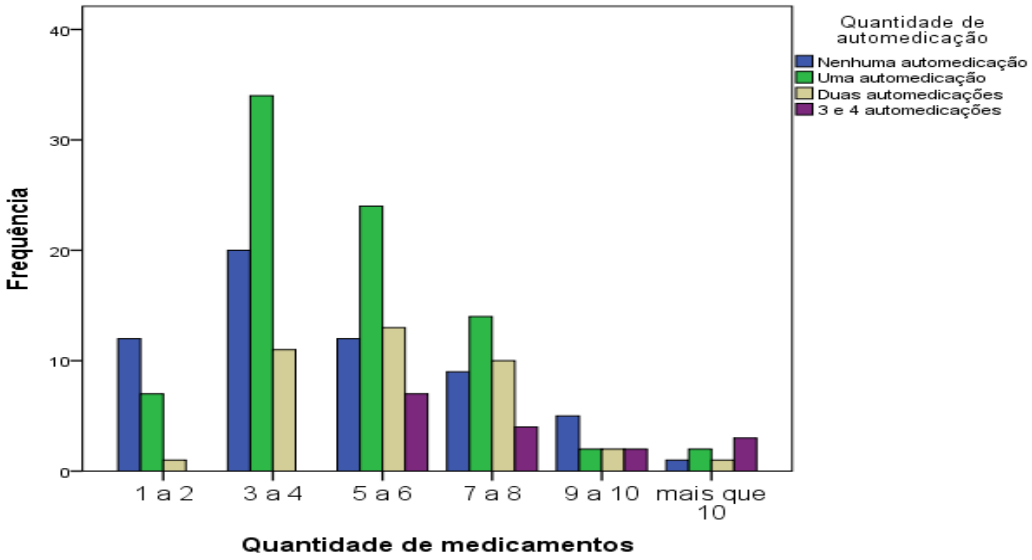

Figure 5 - Association between the amount of drugs with the amount of self-medication

4.4 Assessment of physical appearance and physiological parameters

With aging, care is taken to minimize the risks of Cardiovascular Diseases (CVD), among the predisposing factors are smoking, hypertension, dyslipidemia, DM, total and central obesity. (FERREIRA et al., 2010). In the analysis of the charts it was possible to verify that 38.73% of the patients were classified as overweight, 28,17 with degree I obesity, 7.04 degree II obesity and 4.93% degree III obesity, totalizing 78.9% of overweight patients , according to BMI values shown in Figure 6. According to Ferreira et al (2010), a study carried out in Goiânia observed the prevalence of obesity in 76.2% of elderly patients, again being women with a higher incidence (83.3% %), the prevalence of type 2 DM was associated with high mortality rates, since most diabetics were overweight or obese.

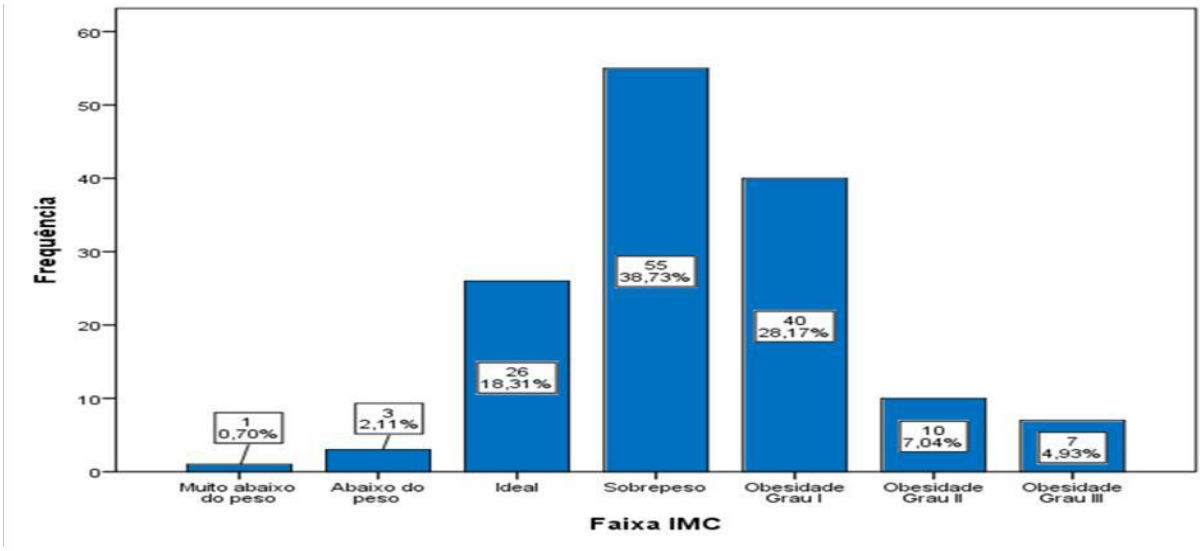

Fig.6: Classification in relation to the value of BMI

Costa (2004), in a survey conducted in Belo Horizonte / MG, about the harmful factors to health of the elderly, reports that income, education and other aggravating factors of health, but healthy eating is related to cultural habits, but poverty defines the access to vegetables and fruit due to low purchasing power, in addition, much of the old income is spent on drugs. Also it was observed that elderly people with less education were more sedentary lifestyle and had less healthy eating habits.

4.5 Problems related to drugs cited by users

With respect to DRP 56% (110) of the elderly respondents reported do not have any, and 44% (86)

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reported at least one problem with the drug (Figure 7), the most common are shown in Figure 08 were hardly be cited by 31 4% of patients, 40.7% reported stomach problems observed in this case the use of hypoglycemic drugs and NSAIDs, 17.4% reported having difficulties in recognizing the medication which makes the pharmacological treatment a health risk patients can be serious consequences for short and long term depending on the type of medication and therapeutic index, 15.1% due to discomfort come to be without taking medication noting non-adherence to treatment, 3.5% difficulty swallowing also 3.5% They reported a lack of satisfactory results as control of BP and blood glucose and 4,6% reported dry cough.

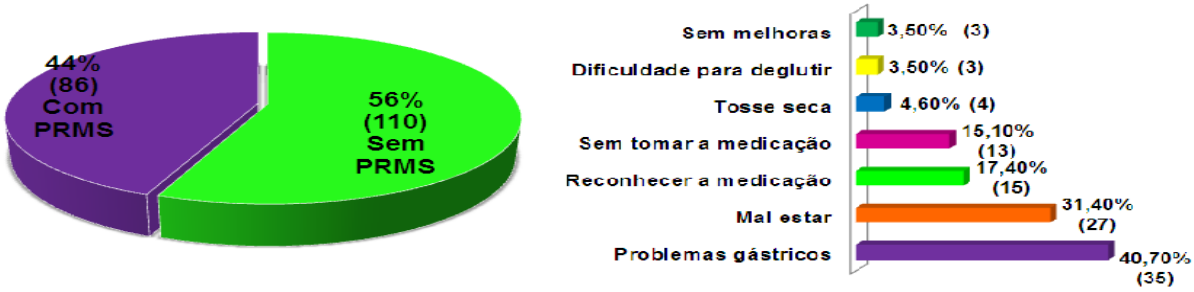

Fig.7: (a) Number of seniors with DRP (b) Main DRP cited by Seniors

The DRP and bring discomfort to the patient may impair the pharmacological treatment leading to non-compliance with treatment or undesirable consequences such as hospitalizations, studies have reported that the risk of drug interactions increases with the amount of medication 06 drugs leads to a risk 85%, 08 drug interaction potential of up to 100% on these facts the monitoring of prescriptions and monitoring of elderly patients is indispensable. (LOCATELLI, 2007).

Regarding the direction of the medication the elderly reported that the doctor is the main advisor, when do not understand how to take their medication mainly seek help with children or family house that pushes through private pharmacies get some medicine.

Permanent education and adoption of collaborative strategies among physicians, pharmacists, nurses and CHWs can contribute to a more humane and promising service, adopting measures and updated programs or lists of the main interactions and side effects can assist in the identification of drug interactions to reduce risks to health of the elderly and possible hospitalization patients. (Matos *et al.*, 2009).

Table.5: Demonstration of the number of patients according glucose levels during the period of nine (9) months

Blood glucose values (mg/dL)	Frequency	% Total	% Valid	% Cumulative
70 a 99,99	04	2,0	7,5	7,5
100 a 124,99	07	3,6	13,2	20,7
125 a 269,99	30	15,3	56,6	77,3
>270	12	6,1	22,7	100,0
Total	53	27	100,0	
No history	143	73		
Total	**196**	**100,0**		

Table 5 shows the amount and percentage of patients according to the glycemic levels found in the medical records. It was possible to locate 53 (27%) patients with at least one glycemic measurement during the period of 9 (nine) months, the other patients totaling 143 (73%) were classified as without history due to lack of follow up in the present period. Only 7.5% of the glycemic values were <100 mg / dL, 13.2% between 100 and 125 mg / dL and the remaining 79.3% of the values found were greater than 125 mg / dL

Table 6 shows the frequencies of PAS values, parameters collected from medical records, and 169 (86.2%) had at least one annotation in the same period mentioned above, and 27 (13.8%) were not found no result in this period which leads one to believe that they were not followed up by health professionals. Among the patients with a history of 13.6%, SBP <120 mmHg, 18.9% between 120-130 mmHg, most of them totaling 67.5%, SBP values between 140 and 240 mmHg were observed.

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Table.6: Frequency of patients according to pressure levels in the period of 9 (nine) months.

Pressure Levels (mmHg)	Frequency	% Total	% Valid	% Cumulative
Ideal (< 120)	23	11,7	13,6	13,6
Normal(120 a 130)	32	16,3	18,9	32,5
Stage I (140 a 159,99)	58	29.6	34,4	66,9
Stage II (160 a 179,99)	34	17,4	20,1	87,0
Stage III (≥180)	22	11,2	13,0	100,0
Total	169	86,2	100,0	
No history	27	13,8		
Total	**196**	**100,0**		

Pink and Franken (2007) highlight the importance in monitoring hypertensive patients, especially elderly people who have higher levels than younger patients due to high prevalence of coronary, cerebral and heart disease, the BP control helps reduce the risk of pathological events that may compromise the health and welfare of the elderly.

When applied Pearson correlation statistical test to verify the correlation between age, PAS and blood glucose observed that age and systolic blood pressure is statistically correlated positively (p = 0.003), showing that the larger the higher age are the values of SBP, not correlation between SBP and glucose (p = 0.393) or between glucose and age (p = 0.174), noting that were not correlated patients with two logs or more glucose and PA, observed 40 patients with more than two glycemic and 152 history with more than two PA history, which may compromise the results, it is suggested a more detailed follow-up of these physiological parameters in order to obtain more satisfactory results.

BMI at pressure levels and the age of patients, there was a significant positive correlation was also correlated with age (p = 0.018) and no association with blood pressure levels (p = 0.334) for this analysis was analyzed history 142 elderly.

5. FINAL CONSIDERATIONS

After analysis of the results was observed using 1059 medicaments, 76% acquire medication in at least 02 different places may promote therapeutic duplication, the physician is the main guiding medication use, among the cited MICs are stomach problems and malaise, 17.4% have difficulty in recognizing, 15.1% are not taking the drug due to adverse accustomed and 69.4% use at least one self-medication.

Regarding income observed similarity in the mode of acquisition, the classification of physiological parameters was observed lack of data in the records, and 79.3% had blood glucose levels> 125 mg / dL and 67.5% with SBP> 140 mmHg, also noted it is association between the amount of medicines and self-medication and correlation between age and SBP and BMI and age.

The application of the SFT can assist in achieving safer and more effective drug therapies, deployment strategies that can promote greater patient adherence to medication and monitoring of physiological parameters. Therefore, it is inferred that this study may support public policies of attention and promoting the health of the elderly facing the aging not as a disease but a natural process of life.

REFERENCES

[1] AGUIAR, P.M. et al. (2008). Avaliação da Farmacoterapia de idosos residentes em instituições asilares no nordeste do brasil. ***Latin American Journal of Pharmacy.*** V.27, n° 3, p. 454-459. Available in: <http://www.latamjpharm.org/trabajos/27/3/LAJOP_27_3_3_3_Z8FICZMB32.pdf >. Accessed on: 01nov.2014.

[2] ARAÚJO, A.L.A. et al. (2008). Perfil da assistência farmacêutica na atenção primária do Sistema Único de Saúde. **Ciência & Saúde Coletiva.** V13 (Sup), p. 611-617. Available in: <http://www.scielo.br/pdf/csc/v13s0/a10v13s0.pdf>. Accessed on: 19Dec.2012.

[3] BÓS, A.M.G.; BÓS, A.J.G. (2004). Determinantes na escolha entre atendimento de saúde privada e pública por idosos. **Revista saúde pública.** V. 38, n° 1, p. 113-120. Available in: <http://www.scielo.br/pdf/rsp/v38n1/18460.pdf> Accessed on: 20nov.2014.

[4] CARVALHO, C.A.P. et al. (2008). Acolhimento aos usuários: uma revisão sistemática do atendimento no Sistema Único de Saúde. **AeqCiênc Saúde**. V. 15. n. 2, p. 93-95, abr/jun. 2008. Available in: <http://www.cienciasdasaude.famerp.br/racs_ol/vol-15-2/iD%20253.pdf>. Accessed on: 26jan.2013.

[5] CARVALHO, D.M.O. (2010). Investigação de problemas relacionados com medicamentos dos pacientes idosos residentes em um abrigo de longa permanência. Monografia de (Trabalho de conclusão

https://dx.doi.org/10.22161/ijaers.5.8.15 *ISSN: 2349-6495(P) | 2456-1908(O)*

de curso da Universidade Federal do Piauí). Terezina. Centro de Ciência da Saúde.

[6] CASCAES, E.A.; FALCHETTI, M.L.; GALATO, D. (2008). Perfil da automedicação em idosos participantes de grupos da terceira idade de uma cidade do sul do Brasil. **Arquivos catarinenses de medicina.** V. 37, n°. 1, p. 62-69. Available in: <http://www.acm.org.br/revista/pdf/artigos/537.pdf> . Accessed on: 01nov.2014.

[7] COLET, C.F.; MAYORGA,P.; AMADOR,T.A. (2008). Utilização de medicamentos por idosos inseridos em grupos de convivência no município de Porto Alegre/RS/Brasil. ***Latin American Journal of Pharmacy.*** V. 27, n° 3, p. 460-467. Available in: < http://www.latamjpharm.org/trabajos/27/3/LAJOP_ 27_3_3_4_09HK9Z6E90.pdf>. Accessed on: 26oct.2014.

[8] COSTA, M.F.L. (oct/dec/2004). A escolaridade afeta, igualmente, comportamentos prejudiciais à saúde de idosos e adultos mais jovens? – Inquérito de saúde da região metropolitana de Belo Horizonte, Minas Gerais, Brasil. **Epidemiologia e Serviços de Saúde.** V. 13, n°. 4, p. 201-208. Available in: http://iah.iec.pa.gov.br/iah/fulltext/pc/portal/ess/v13 n4/pdf/v13n4a02.pdf>. Accessed on: 02nov.2014.

[9] FERREIRA, C.C.C. et al. (jun.2010). Prevalência de fatores de risco cardiovasculares em idosos usuários de Sistema Único de saúde de Goiânia. **Arq. Bras. Cardiol.** V. 95, n. 5, p. 621-628. Available in: http://www.scielo.br/pdf/abc/v95n5/aop13710>. Accessed on: 02nov.2014.

[10] FLORES, V.B.; BENVEGNÚ, L.A. (jun.2008). Perfil de utilização de medicamentos em idosos da zona urbana de Santa Rosa, Rio Grande do Sul, Brasil. **Cad. Saúde Pública.** Rio de Janeiro. V. 24, n. 6, p. 1439-1446. Available in: <http://www.scielo.br/pdf/csp/v24n6/24.pdf>. Accessed on: 03jul.2014.

[11] GALATO, D.; SILVA, E.S.; TIBURCIO. (2010). Estudo da utilização de medicamentos em idosos residentes em uma cidade do sul de Santa Catarina (Brasil); um olhar sobre a polimedicação. **Ciência & Saúde Coletiva.** V. 15, n°. 6, p. 2899-2905. Available in: <http://www.scielo.br/pdf/csc/v15n6/a27v15n6.pdf> . Accessed on: 01nov.2014.

[12] JOIA, L.C.; RUIZ, T.; DONALISIO, M.R. (2007). Condições associadas ao grau de satisfação com a vida entre a população de idosos. **Revista Saúde Pública.** V. 41, n. 1, p.131-138. Available in: <http://www.scielo.br/pdf/rsp/v41n1/19.pdf>. Accessed on: 26oct.2014.

[13] LOCATELLI, J. (oct.2007). Interações medicamentosas em idosos hospitalizados. **Einstein**. V. 5, n. 4,p. 343-346.

[14] MATOS, V.T.G. et al. (2009). Avaliação das interações medicamentosas em prescrições hospitalares de pacientes sob uso de Anti-Hipertesivos. **Lat. Am. J. Pharm**. V. 28 n. 4, p. 501-506.

[15] MENESES, A.L.L.; SÁ, M.L.B. (oct.2007). Atenção farmacêutica ao idoso: fundamentos e propostas. **Geriatria & Gerontologia**. V. 4, n. 3, p. 154-161. Available in: <http://crfce.org.br/novo/images/stories/artigos/Dr.Andre_Meneses.SBGG. 2010.2011.revistas_13_indices_104.pdf>. Accessed on: 19dec.2012.

[16] PEREIRA, V.O.M. et al. (aug.2012). Perfil de utilização de medicamentos por indivíduos com hipertensão arterial e diabetes mellitus em municípios da Rede Farmácia de Minas. Rio de Janeiro. **Cad. Saúde Pública.** V. 28, n°. 8, p. 1546-1558. Available in: <http://www.scielo.br/pdf/csp/v28n8/13.pdf>. Accessed on: 01nov.2014.

[17] PICCINI, R.X. et al. (2006). Necessidade de saúde comuns aos idosos: efetividade na oferta e utilização em atenção básica em saúde. **Ciência e Saúde coletiva**. V. 11, n. 3, p.657-667. Available in: <http://www.scielo.br/scielo. php?pid=S1413-81232006000300014&script=sci_abstract&tlng=pt> . Accessed on: 23jan.2013.

[18] PLÁCIDO, V.B.; FERNANDES, L.P.S.; GUARIDO, C.F. (aug. 2009). Contribuição da atenção farmacêutica para pacientes portadores de diabetes atendidos no ambulatório de endocrinologia da UNIMAR. **Revista Bras. Farm.** V. 90, n. 3, p. 258-263. Available in: <http://www.ceatenf.ufc.br/ceatenf_arquivos/Artigos/23.pdf>. Accessed on: 01nov.2014.

[19] ROSA,R. F.; FRANKEN, R. A. (2007). Fisipatologia e diagnóstico da hipertensão arterial no idoso: papel da monitorização ambulatorial da pressão arterial e da monitorização residencial da pressão arterial. **Revista Brasileira Hipertensão.** V. 14, n° 1, p. 21-24. Available in: <http://departamentos.cardiol.br/dha/revista/14-1/06-fisiopatologia-diagnostico.pdf>. Accessed on: 12oct.2014.

[20] REIS, L.A.; VENTURA, A.M. (set/dec.2013). Fatores associados ao uso errado de medicamentos em idosos. **InterScientia.** João Pessoa. V. 1, n. 3, p. 39-49. Available in:

https://dx.doi.org/10.22161/ijaers.5.8.15 *ISSN: 2349-6495(P) | 2456-1908(O)*

<https://unipe.br/periodicos/index.php/interscientia/article/view/216>. Accessed on: 26out2014.

[21] RIBEIRO, L.C.C.; ALVES, P.B.; MEIRA, E.P. (abr/jun2009). Percepção do idoso sobre as alterações fisiológicas do envelhecimento. **Cienccuid saúde**. V. 8, n. 2, p. 220-227. Available in: <http://periodicos.uem.br/ojs/index.php/CiencCuid Saude/ article/view/8202>. Accessed on: 23jan.2013.

[22] ROCHA, C.H. et al. (apr.2008) Adesão à prescrição médica em idosos de Porto Alegre, RS. **Ciência & Saúde Coletiva,** Rio de Janeiro. V. 13, p. 703-710. Available in: <http://www.scielo.br/scielo.php?pid=S1413-81232008000700020& script=sci _abstract &tlng=pt>. Accessed on: 26jan.2013.

[23] ROMERO, A.D. et al. (apr./jun.2010). Características de uma população de idosos hipertensos atendida numa unidade de saúde da família. **Revista Rene. Fortaleza.** V. n. 2, p. 72-78. Available in: <http://www.revistarene.ufc.br/revista/index.php/revista/article/view/375>. Accessed on 26oct.2014.

[24] ROSSIGNOLI, P.S.; GUARIDO, C.F.; CESTARI, I.M. (2006). Ocorrência de interações medicamentosas em unidades de terapia intensiva: avaliação de prescrições médicas. **Revista Bras. Farm**. V. 87, n. 4, p. 104-107. Available in: <http://rbfarma.org.br/files/pag_104a107_OCORRENCIA.pdf>. Accessed on: 01nov.2014.

[25] SANTOS, F.S.; OLIVEIRA, K.R.; COLET, C.F. (aug.2010). Adesão ao tratamento medicamentoso pelos portadores de Diabetes Mellitus atendidos em uma Unidade Básica de Saúde no município de Ijuí/RS: um estudo exploratório. **Revista de Ciências Farmacêuticas Básica e Aplicada.** V. 31, n. 3, p. 223-227. Available in: <http://serv-bib.fcfar.unesp.br/seer/index.php/Cien_Farm/article/viewArticle/1572>. Accessed on: 26oct.2014.

[26] SANTOS, H. et al. (2004). Segundo consenso de Granada sobre Problemas relacionados com medicamentos tradução intercultural de espanhol para português (europeu). **Acta médica portuguesa.** V. 17, p. 59-66. Available in: <www.actamedicaportuguesa.com/revista/index.php/amp/ article/.../1329. Accessed on: 30jan.2013.

[27] SANTOS, Z.M.S.A. et al. (jul-sep2005). Adesão do cliente hipertenso ao tratamento: análise com abordagem interdisciplinar.**Texto Contexto Enferm.** V. 14, n° 3, p. 332-340. Available in:<http://www.scielo.br/pdf/tce/v14n3/v14n3a03>. Accessed on:22may.2013.

[28] SILVA, C.A; FOSSATTI, A.F; PORTELLA, M.R. (2007). Percepção do homem idoso em relação às transformações decorrentes do processo de envelhecimento humano. **Estud. Interdiscip. Envelhec.** V. 12, p. 111-126. Porto Alegre. Available in: <http://seer.ufrgs.br/RevEnvelhecer/article/view/4982/2851>. Accessed on: 22may.2013.

[29] SILVA, C.S.O. et al. (oct/dec2010). Avaliação do uso de medicamentos pela população idosa em Montes Claros, Minas Gerais, Brasil. **Escola Anna Nery.** Rio de Janeiro. V. 14, n° 4, p. 811-818. Available in: <http://www.scielo.br/scielo.php?pid=S1414-81452010000400022&script=sci_arttext>. Accessed on: 11nov.2014.

[30] SOUZA E.C.F. et al. (2008). Acesso e acolhimento na atenção básica: uma análise da percepção dos usuários e profissionais de saúde. **Cad. Saúde Pública**, V. 24 Sup1, p. S100-S110. Rio de Janeiro. Available in: <http://www.scielo.br/pdf/csp/v24s1/15.pdf>. Accessed on: 26jan.2013.

[31] TEIXEIRA, M.Z. (2007). Homeopatia: prática médica humanista. **Rev. Assoc. Med. Bras**. V. 53, n. 6, p. 547-549. São Paulo. Available in:<http://www.scielo.br/scielo.Php?script=sci_arttext&pid=S0104-42302007000600026>. Accessed on: 26jan.2013.

[32] ZAMPARETTI, F.O.; LUCIANO, L.T.R.; GALATO, D. (may.2008). Utilização de medicamentos em uma instituição de longa permanência para idosos do sul de Santa Catarina – Brasil. **Latin American Jornal of Pharmacy.** V. 27, n. 4, p. 553-559. Available in: <http://www.latamjpharm.org/trabajos/27/4/LAJOP_27_4_1_11_5OQNIW9UJ4. pdf>. Accessed on: 23jan.2013.