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RESEARCH

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# USE OF BENZODIAZEPINES BY ELDERLY PEOPLE ASSISTED BY THE FAMILY HEALTH STRATEGY PROGRAM

Consumo de benzodiazepínicos por idosos usuários da Estratégia Saúde da Família

Consumo de benzodiazepinicos por idosos usuarios de la Estrategia Salud de la Familia

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# **ABSTRACT**

**Objective:** This study is aimed at investigating the prevalence of benzodiazepine use by elderly people assisted by the Family Health Strategy Program. **Methods:** It is a documental study with a quantitative approach that carried out in two municipalities from the *Ceará* State. There were analyzed 184 medical records of elderly users attending the Family Health Strategy. **Results:** There was a higher prevalence of women, within the age group from 60 to 85 years old, married or common-law marriage, illiterate, who had some chronic disease and did not use psychotropic drugs. For the elderly people who use these medications, there was a higher frequency of benzodiazepines, where its consumption has been taking place under four years, with Diazepam 5 mg being prescribed more regularly as half a tablet daily. Furthermore, it was evidenced a follow-up deficiency of the elderly taking psychotropic drugs. **Conclusion:** The prevalence of benzodiazepine use

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was considered high vis-à-vis the investigated elderly population, which requires better care services for those people and their family members/caregivers, considering the adverse effects of such drugs.

**Descriptors:** Benzodiazepines, Health of the Elderly, Mental Health, Family Health Strategy.

#### **RESUMO**

Objetivo: Investigar a prevalência da utilização de benzodiazepínicos por idosos usuários da Estratégia Saúde da Família. Métodos: Estudo documental e quantitativo realizado em dois municípios do Estado do Ceará. Foram analisados 184 prontuários de idosos usuários da Estratégia Saúde da Família. Resultados: Observou-se uma maior prevalência de mulheres, com idade variando entre 60 e 85 anos, casadas ou com união estável, analfabetas, que possuíam alguma doença crônica e que não utilizam psicotrópicos. Para os idosos que utilizam tais medicamentos, têm-se uma maior frequência de benzodiazepínicos, cujo consumo ocorre há menos de quatro anos, sendo mais prescrito o Diazepam 5 mg, com dose de meio comprimido diariamente. Também foi evidenciada uma deficiência no acompanhamento do idoso que utiliza psicotrópicos. Conclusão: A prevalência do uso de benzodiazepínicos nos idosos investigados foi considerada alta, o que requer um maior cuidado do idoso e de seus familiares/cuidadores acerca dos efeitos adversos desses medicamentos.

**Descritores**: Benzodiazepinas, Saúde do Idoso, Saúde Mental, Estratégia Saúde da Família.

#### **RESUMÉN**

Objetivo: Investigar la prevalencia de la utilización de benzodiazepinas por ancianos usuarios de la Estrategia Salud de la Familia. Métodos: Estudio documental y cuantitativo realizado en dos municipios del Estado de Ceará. Se analizaron 184 prontuarios de ancianos usuarios de la Estrategia Salud de la Familia. Resultados: Se observó una mayor prevalencia de mujeres, con edad variando entre 60 y 85 años, casadas o con unión estable, analfabetas, que poseían alguna enfermedad crónica y que no utilizan psicotrópicos. Para los ancianos que utilizan tales medicamentos, se tiene una mayor frecuencia de benzodiazepinas, cuyo consumo ocurre hace menos de cuatro años, siendo más prescrito el Diazepam 5 mg, con dosis de medio comprimido diariamente. También se evidenció una deficiencia en el acompañamiento del anciano que utiliza psicotrópicos. Conclusión: La prevalencia del uso de benzodiazepinas en los ancianos investigados fue considerada alta, lo que requiere un mayor cuidado del anciano y de sus familiares / cuidadores acerca de los efectos adversos de esos medicamentos.

**Descriptores:** Benzodiazepinas, Salud del Adulto Mayor, Salud Mental, Estrategia Salud de la Familia.

### INTRODUCTION

The age structure of the population has undergone some changes, the population aging is considerably more evident, especially in developing countries such as Brazil, where the growth in the number of elderly people has risen rapidly in recent decades. According to the *Instituto Brasileiro de Geografia e Estatística (IBGE)* [Brazilian Institute of Geography and Statistics], data show that in 2060 this audience will correspond to 26.7% of the Brazilian population, which refers to an increase 3.6 times greater than that existing today.<sup>1</sup>

The importance of the aging process for public health and its impact is evidenced by greater demand for health services, resulting from the persistence of infectious diseases, increased mortality rates from external causes such as accidents, domestic violence and the increase in diseases chronic and degenerative.<sup>2</sup> With this change in the epidemiological profile of the population, it is necessary to update public policies aimed at this segment, aiming at care and comprehensive health care.

Among the health problems that most affect elderly people and cause high morbidity, mental disorders stand out, especially anxiety, depression, and disorders resulting from the use of alcohol and other drugs.<sub>3</sub> In the elderly population, psychological problems are, in most cases, treated with the use of psychotropics, especially benzodiazepines, which represents a risk to the individual's physical and mental health, given that this drug class has important adverse effects, enhances the vulnerability of the elderly to falling and can cause chemical dependence when used for long periods.<sup>4,5</sup>

The benzodiazepine use among elderly people stands out due to the high rates of consumption, both in the community and in institutionalized individuals, in which such practice generally occurs inappropriately, with prescriptions of doses and periods longer than recommended for this population.<sup>6</sup> This reality can be attributed to the lack of national criteria for the monitoring and analysis of prescriptions, to the deficiency in the training of physicians to work with the elderly population, especially in the Family Health Strategy (FHS) and to the lack of continuing education for the health team.<sup>7</sup> Hence, the present study becomes relevant and contemporary, as it deals with an important public health issue due to the scarcity of studies in this area of knowledge.

Bearing in mind the aforesaid, this study meant to investigate the prevalence of benzodiazepine use by elderly people assisted by the Family Health Strategy Program.

### **METHODS**

It is a documental study with a quantitative approach, which was performed in the municipalities of *Ipaumirim* and *Baixio*, both located in the *Ceará* State. A total of 4,380 medical records from five Basic Health Units both rural and urban areas were consulted over the period from January to May 2016, with the sample consisting of 184 medical records.

Inclusion criteria were defined as: medical records of individuals aged  $\geq 60$  years old and who lived in one of the above-mentioned municipalities; present readable content; contain the patient's name, age, marital status, information on the presence of some type of chronic disease, if any, and the pathology, medication used in the treatment, doses, administration times and time of taking the drug should be registered. The clinical information should be registered by the responsible clinician, with date and signature. Incomplete medical records were excluded.

Data collection took place through a structured form containing questions related to the patients' sociodemographic and clinical profile, in addition to information regarding the presence of chronic diseases and the use of medications. The data were analyzed using descriptive statistics, being organized, tabulated, and processed by the Statistical Package for the Social Sciences (SPSS), version 22.0.

This study followed the guidelines addressed by the Resolution No. 466/2012, being approved by the Research Ethics Committee from the *Faculdade Santa Maria (FSM)* under the legal opinion No. 748.816.

# **RESULTS**

Herein, 184 medical records of the elderly people were analyzed, among which there was a higher prevalence of women (67.9%), within the age group from 60 to 85 years old, married or common-law marriage (69%), illiterate (30.4%), retired (63.3%), living with three to four people (39.1%) and having a family income between R\$ 788.00 and R\$ 2,364.00 (79.3%) (**Table 1**).

**Table 1 -** Sociodemographic characteristics of the elderly people assisted by the FHS from the municipalities of *Ipaumirim* and *Baixio*, *Ceará* State, 2016. (N=184)

Variable	n	%
Gender		
Male	59	32.1
Female	125	67.9
Age group (years old)		
60 - 69	82	44.6
70 - 79	61	33.2
80 or more	41	22.2
Marital status		
Single	10	5.4
Married/Common-law marriage	127	69.0
Widow	40	21.7
Divorced	1	0.6
Not informed	6	3.3
Education		
Illiterate	56	30.4
Incomplete Elementary School	29	15.8
Complete Elementary School	6	3.3
Complete High School	2	1.1
Complete College (Graduate)	1	0.5
Not informed	90	48.9
Profession/Occupation		
Retired	114	63.3
Farmer	30	15.6
Housewife	30	15.6
Public servant	6	3.3
Autonomous	2	1.1
Not informed	2	1.1

Variable	n	%
Family members		
1 - 2 members	30	16.1
3 - 4 members	72	39.1
5 or more members	48	26.4
Not informed	34	18.4
Family income		
Less than R\$ 788.00	18	9.8
R\$ 788.00 - R\$ 2,364.00	146	79.3
More than R\$ 2,364.00	5	2.7
Not informed	15	8.2
TOTAL	184	100

Source: Documental research, 2016.

Table 2 shows that most elderly people had chronic diseases (76.6%) and use some type of psychotropic drug (39.2%), with benzodiazepines (31.5%) being more frequent, where its consumption has been taking place under four years (48.3%), due to the presence of insomnia as the main complaint (29.3%). The use of other psychotropics such as barbiturates, antihistamines, and antidepressants (19.5%) was evidenced, with the most frequent time of use being from zero to four years (64.3%), with regular medical monitoring at the health unit (89.1%).

**Table 2 -** Aspects related to the prescription of psychotropic drugs among elderly people assisted by the FHS from the municipalities of *Ipaumirim* and *Baixio*, *Ceará* State, 2016. (N=184)

Variable	n	%	
Existence of a chronic disease (n=184)			
Yes	141	76.6	
No	43	23.4	
Use of psychotropic drugs (n=184)			
Yes	72	39.2	
No	112	60.8	
Medication class (n=184)			
Benzodiazepines	58	31.5	
Other psychotropic drugs*	14	7.7	
Other medications	112	60.8	
Time of taking the benzodiazepines (n=58)			
0 - 4 years	28	48.3	
5 - 9 years	14	24.1	
10 - 14 years	16	27.6	
Time of taking other psychotropic drugs (n=14)			
0 - 4 years	9	64.3	
5 - 9 years	3	21.4	
10 - 14 years	2	14.3	

Variable	n	%	
Motive for taking the benzodiazepines (n=58)			
Insomnia	17	29.3	
Nervousness	7	12.1	
Anxiety	3	5.2	
Convulsion	2	3.4	
Concern	2	3.4	
Unrest	2	3.4	
Depression	1	1.7	
Psychoses	1	1.7	
Tachycardia	1	1.7	
Panic	1	1.7	
Not informed	21	36.2	
Regular medical follow-up (n=184)			
Yes	164	89.1	
No	20	10.9	

<sup>\*</sup> Barbiturates, Antihistamines and antidepressants.

Source: Documental research, 2016.

**Table 3** addresses data indicating Diazepam 5 mg as the main prescribed substance (15.5%), followed by Clonazepam 2 mg (24.1%). The majority of professionals (89.7%) prescribed half a tablet daily, and 54 professionals (93.1%) chose to indicate the use of the drug once a day, of these, all were general physicians (100%).

**Table 3 -** Aspects related to the prescription of benzodiazepines among elderly people assisted by the FHS from the municipalities of *Ipaumirim* and *Baixio*, *Ceará* State, 2016. (N=184)

Variable	n	%
Prescribed benzodiazepines	,	
Diazepam 10 mg	9	15,5
Diazepam 5 mg	26	44,8
Diazepam 0.5 mg	3	5,1
Clonazepam 2 mg	14	24,1
Clonazepam 0.5 mg	3	5,1
Alprazolam 1 mg	1	1,8
Alprazolam 0.5 mg	1	1,8
Alprazolam 0.1 mg	1	1,8
Number of tablets a day		
1/2 tablet	52	89,7
1 tablet	4	6,8
2 tablets	2	3,5
Number of times a day		
1 time	54	93,1
2 times	4	6,9
Medical specialty		
General physician	58	100
TOTAL	184	100

Source: Documental research, 2016.

# **DISCUSSION**

Through the analysis of the medical records, it was evidenced that the participants were within the age group from 60 to 85 years old, with an average of  $71.20 \pm 6.96$  years old. Age is an important factor for the use of psychotropic drugs, and it is observed that the elderly population has a high consumption rate, despite the considerable risks associated with this practice, such as falls, cognitive decline, dementia, increased mortality, among others. <sup>8,9</sup>

Concerning the marital status, it was observed that most participants were married or common-law marriage (69.0%). Living with the partner associated with the interpersonal and financial difficulties experienced daily, commonly generate problems that interfere with the couple's dynamics and, in many cases, result in the use of psychotropic drugs, due to the presence of depressive episodes and anxiety. A study carried out in Finland found that the use of psychotropic drugs is related to marital status, given that if one partner uses antidepressants, there is an increase in the likelihood of the partner also using. 11

Regarding the education, there was a predominance of illiterate elderly. It is noteworthy that of the 184 medical records analyzed, 90 (48.9%) of them did not contain information concerning the level of education, which allows the existence of an even greater number of illiterate elderly people. This framework can be justified by the fact that most of the elderly people live, most of their lives, in rural areas, a fact that makes access to education difficult, considering that they are in the cities where most schools are concentrated.

Low education level is a factor that has a negative influence on various aspects of the elderly person's life, especially concerning the difficulty of seeking and/or assimilating information related to health care, which causes a great risk for the exacerbated use of medicines psychotropic, due to the difficulty in understanding the correct dosage to be used and the adverse effects caused.<sup>12</sup>

The research exposes the presence of a large index of retired elderly people. The influence generated by retirement and the change in family and social roles played by the individual can have a serious impact on the life of the elderly, causing social isolation and an increase in the consumption of psychotropic drugs, especially antidepressants and benzodiazepines.<sup>13</sup>

The average number of family members who lived in the same residence with the elderly was  $4.01 \pm 1.76$ , which reveals the need for further investigation in regard to the dynamics of the relationship between the family and the elderly person, given that the presence conflict is an important cause of stress and psychosocial problems, which can cause a greater risk of psychotropic use by this population.<sup>8</sup>

It is noteworthy that in 34 (18.5%) medical records there was no information relevant to the number of family members. In this sense, it is clear that the lack of data in the medical records related to family composition can interfere with the direction of health actions, considering that the

FHS must know and monitor all families within its coverage area. Thus, the absence of this information may suggest an important weakness in relation to the care provided by the team.

With regard to income, it was observed that 146 (79.35%) elderly people received from one to three minimum wages per month, and of the medical records examined 15 (8.15%) did not contain information vis-à-vis family income. The low income of the elderly observed in this study could be related to the low educational level, given that it has a significant influence on many aspects of the individual's life, especially the elderly, generating a decrease in socioeconomic level and a reduction in access to health services and consumption, which can significantly influence the social isolation of this individual, favoring the use of psychotropics, especially benzodiazepines.<sup>12</sup>

Observing the clinical aspects analyzed, the prevalence of elderly people who have some type of chronic disease is noted, especially arterial hypertension. Chronic-degenerative diseases, especially in the adult and elderly population, constitute a serious public health problem, as they have significant impacts related to morbidity and mortality. These diseases are long-lasting and will accumulate in individuals, in view of the increasing life expectancy of the population.<sup>14</sup>

The prevalence of psychotropic use (39.2%) was considered high, especially when compared to other studies in which the use of these drugs in the elderly population did not exceed 15%, corresponding to 10.9% for a total of 1,515 elderly people investigated in *Campinas* city, *São Paulo* State, 15 and totaling 13.4% for a sample of 1,635 elderly people in *Belo Horizonte* city, *Minas Gerais* State. 16

The number of elderly people using benzodiazepines also had a high frequency (31.5%), with a maximum consumption time of up to four years (48.3%). This finding differs from a study performed with 423 elderly people through household surveys carried out in 2010 and 2014-2015, in which the use of benzodiazepines in the investigated population corresponded to 18.3%.<sup>17</sup>

The interruption of benzodiazepines causes numerous adverse effects, especially in the elderly population, being potentiated by the associated use of drugs to treat other comorbidities.<sup>8</sup> Therefore, it is frequent the occurrence of individuals who continue to use benzodiazepines even after the period recommended by the clinician.<sup>18</sup> A study carried out with Japanese adults and elderly people who used benzodiazepines showed that age equal to or above 65 years old presents itself as a risk factor for the continued use of such medications, since old age increases the severity of the symptoms of psychiatric issues.<sup>19</sup>

With regard to medical follow-up, it is observed that the majority of the elderly make regular visits to the health unit, nevertheless, this activity can make the elderly vulnerable to the use of psychotropics, since the number of psychiatric physicians in the primary care is incipient, which favors the inadequate prescription of these drugs by general physicians, especially benzodiazepines.<sup>18</sup>

The main reason for prescribing benzodiazepines in the elderly investigated was insomnia. Benzodiazepines are commonly used to treat anxiety and insomnia disorders, nonetheless, excessive use and/or in inadequate doses causes daytime sleepiness and cognitive decline, with a consequent change in sleep patterns, which might increase the frequency of insomnia episodes.<sup>19</sup>

Over time, elderly people tend to have greater complaints regarding changes in sleep patterns, with more constant reports of insomnia. It is important to emphasize that the elderly's sleep can be interrupted frequently during the night, which causes loss in the quality of rest, causing dissatisfaction and the frequent search for medicines that can solve the problem.<sup>20</sup>

With regard to medical records, a significant portion did not contain information on the reason for the prescription of psychotropic drugs. In this sense, there is an important weakness in the care of these elderly people in the FHS, given that all data referring to treatment must be recorded systematically in the medical record so that the monitoring is carried out effectively by the multidisciplinary team.

Concerning the prescription of benzodiazepines, it is clear that Diazepam and Clonazepam were the most chosen by professionals. Similar data were verified by a study on the use of potentially inappropriate psychotropic drugs for the elderly, through data obtained from pharmacies and medical records of the public health system in a city in the *São Paulo* State, showing that among the prescriptions of drugs, the Diazepam and Clonazepam were the most widely used benzodiazepines.<sup>7</sup>

Benzodiazepines such as Diazepam and Clonazepam should be prescribed with caution, especially to elderly people, as these drugs have a long half-life in this population, generating prolonged sedation, which increases the risk of falls and fractures. Therefore, the use of more than one year requires greater care towards the elderly population, requiring regular medical monitoring, with consequent monitoring of cognitive, hepatic and renal function, blood cell count, among others. 6

With regard to the number of pills taken daily, the data indicate that professionals prescribed the dose of half a tablet more frequently. Regarding the number of times to use the medication, it can be inferred that there are inadequacies in relation to this, since in the case of elderly patients, it is recommended that the medication be used in at least three doses a day, avoiding the use of large amount of the drug at the same time.<sup>23</sup> Consequently, it was noticeable the difficulty of FHS professionals in adjusting the dosages of medications according to the elderly's needs, mainly due to the lack of experience in mental health and psychiatry.

## CONCLUSIONS

The prevalence of benzodiazepine use was considered high vis-à-vis the investigated elderly population, which requires better care services for those people and their family members/caregivers, considering the adverse effects of such drugs. Moreover, due to the high risk of falls and cognitive problems that can be triggered.

Another perceived aggravating factor is the deficiency in monitoring the treatment of this elderly person, highlighting the role of the nurse as a member of the Family Health multiprofessional team, which must know the community and especially its risk groups. Bearing in mind that the nurse is the professional responsible for the management of care within the FHS, it is up to the latter to carry out health promotion activities with the team, in order to prevent the inappropriate use of psychotropics, especially benzodiazepines.

These data demonstrate the need to implement public policies on mental health within primary care, especially for the elderly population. In view of the results, it is suggested that the FHS teams develop an individualized therapeutic project for all elderly people who use psychotropic substances, thus increasing the level of knowledge of these individuals in relation to treatment. The proposed activities must fully contemplate the elderly person, considering the determining and conditioning factors that collaborate or determine the use of these drugs among the elderly.

This study had some limitations, especially with regard to underreporting of psychotropic drugs use by the population, including benzodiazepines. The inconsistency of information in the medical records presents itself as a shortcoming that must be overcome in future investigations, requiring the awareness of FHS professionals in relation to the importance of taking notes properly.

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