

**ANALYSIS OF THE CONSEQUENCES CAUSED BY THE EXCESSIVE USE OF CLONAZEPAM IN CUSTOMERS OF A PHARMACY IN THE MUNICIPALITY FROM SANTANA DO IPANEMA-AL**

*ANALYSIS OF THE CONSEQUENCES CAUSED BY THE EXCESSIVE USE OF CLONAZEPAM IN CLIENTS OF A PHARMACY IN THE MUNICIPALITY OF SANTANA DO IPANEMA-AL*

Geovana Alves da Silva  
Loane Marzia Lopes Costa  
Isac da Silva Macêdo  
Maria Tamires Santos da Silva

**SUMMARY**

The consumption of psychotropic drugs has been growing gradually in recent years, among these drugs, one of the most sought after in pharmacies in Brazil is clonazepam, which belongs to the group of benzodiazepines, considering that it is one of the most prescribed by clinicians and psychiatrists. This medicine is being ingested by the population at an increasingly earlier age. It is worth mentioning that long-term use of this substance can cause chemical dependency in addition to other factors that harm the patient's health if the treatment continues for a period longer than eight months, which is recommended by most doctors. The present study aimed to analyze the consequences caused by the excessive use of clonazepam in the long term, by customers of a pharmacy in the municipality of Santana do Ipanema-AL. Among the main reasons for using the medication, it was reported that clonazepam helped in the treatment of anxiety, mood disorders and depression, in addition to demonstrating that the vast majority of pharmacy customers consume the medication monthly for a period beyond the recommended period.

**Key words:** Benzodiazepine; Dependency; Effects; Complications

**ABSTRACT**

The consumption of psychotropic drugs has been growing gradually in recent years, among these drugs one of the most sought after in pharmacies in Brazil is clonazepam, considering that it is one of the most prescribed by clinicians and psychiatrists. This medicine has been and ingested by the population earlier and earlier. It is noteworthy that the use of this substance in the long term can cause chemical dependence and other factors that harm the patient's health if the treatment is extended for a period longer than eight months, which is recommended by most physicians. The present study aimed to analyze the consequences caused by the excessive use of clonazepam in the long term, by customers of a pharmacy in the city of Santana do Ipanema-AL. Among the main reasons for using the drug, clonazepam was reported to help treat anxiety, mood disorders and depression, in addition to demonstrating that the vast majority of pharmacy customers consume the drug monthly for a period beyond the recommended period. **Keywords:** Benzodiazepine; Dependency; Effects; complications

**1. INTRODUCTION**

In recent years, the consumption of psychotropic drugs has been growing gradually. Among these, the drug clonazepam is the most sought after in drugstores in Brazil. (MANGINI, 2014).

According to the National Health Surveillance Agency (Anvisa), in 2010 alone, Brazilian consumption of the Rivotril principle, which is the reference medicine for clonazepam, reached around 10 million boxes. The significant growth in a short time raises suspicions of excessive and unnecessary use by experts (FIRMINO et al., 2011).

According to Cruz, (2016), "Clonazepam belongs to the pharmacological class of benzodiazepines". Benzodiazepines are a category of medications indicated for cases of anxiety, mood disorders, insomnia and other conditions related to the Central Nervous System (CNS). According to Schweizer; Rickels, (1998), excessive consumption of benzodiazepines (BZD) for a period exceeding six months of treatment can cause clinical signs of chemical, physical or psychological dependence in patients.

Prolonged use of benzodiazepines, the class to which clonazepam belongs, is associated with many adverse effects, including sedation, amnesia, cognitive deterioration and ataxia, in addition to a greater number of falls (RICHARDSON; BENNETT; KENNY, 2015).

Although these medications are listed in the literature as one of the safest, they hide serious problems in their management, as the difficulties inherent to dependence do not outweigh the benefits and often go unnoticed due to the complexity of the situations involved in the treatment. of patients. (RANG, et al, 2007).

According to Brasil, (2011), the International Narcotics Control Board (INCB), in a report made in 2011, reports a systematic abuse of pharmaceutical preparations containing clonazepam as well as the occurrence of abuse of the prescription of this medication together with the ease of purchasing prescriptions for this drug in many, where in Brazil, data relating to the commercialization of clonazepam point to a consumption of more than twelve million units of this medication, between the years 2008 and 2009.

According to Martin et al. (2013) Both doctors and patients find it difficult to propose protocols that lead the patient to reduce the use of the medication until it is completely suspended, taking into account that many patients minimize or deny feeling the side effects of the medication. In this sense, the role of the pharmacist is defined as an ally of the patient during their rehabilitation from drug disuse, Brito et al. (2010) reiterates that:

In developing this practice, among his numerous skills, the pharmaceutical professional is responsible for evaluating, preventing, reducing or minimizing the impact of therapeutic drug interactions, preventing the emergence of new health problems for the patient, in addition to reducing costs for the healthcare system. . In this way, it satisfies a social need by meeting the individual needs of patients (BRITO et al., 2010).

In 2015, the clonazepam molecule moved around R\$ 220 million in Brazil, representing 0.3% of the total pharmaceutical market. Generic medicines represent 40% (IMS Health, 2015).

As is already known, the use of clonazepam decreases cognitive capacity and alters psychomotor capacity. Its side effects are related to depression of the central nervous system, the most common are: depression, drowsiness, dizziness, decreased concentration, headache, lack of muscle coordination, decreased libido, difficulty in erection, inconvenient social behavior, hypotension, depression respiratory, nausea, change in appetite, blurred vision, confusion, euphoria, depersonalization, nightmares (Laranjeira and Castro, 1999; Lab. Roche 2016).

Therefore, the objective of this research was to analyze the consequences caused by the excessive use of clonazepam in the long term, by customers of a pharmacy in the municipality of Santana do Ipanema-AL, as well as to warn about the consequences of abuse and inappropriate use of this drug.

## 2 THEORETICAL FOUNDATION

Benzodiazepines constitute the group of psychotropic drugs most used in clinical practice, according to Azevedo et al., (2016) four main activities are present: anxiolytic, anticonvulsant, hypnotic and muscle relaxant, although this type of medication is more widely used in anxiety disorders, epilepsy and insomnia. Below, Table 1 shows which pathologies clonazepam is most suitable for:

Table 1 – Group of diseases in which the drug clonazepam is most sought after to assist in treatment.

Transtornos de ansiedade -Como ansiolítico em geral. -Distúrbio do pânico com ou sem agorafobia. -Fobia social.
Transtornos do humor -Transtorno afetivo bipolar: tratamento da mania. -Depressão maior: como adjuvante de antidepressivos (depressão ansiosa e na fase inicial de tratamento).
Emprego em síndromes psicóticas - Tratamento da acatisia.
Tratamento da síndrome das pernas inquietas
Tratamento da vertigem e sintomas relacionados à perturbação do equilíbrio: como náuseas, vômitos, pré-síncope ou síncope, quedas, zumbidos, hipoacusia, hipersensibilidade a sons, hiperacusia, plenitude aurial, distúrbio da atenção auditiva, diplacusia.
Tratamento da síndrome da boca ardente

Source: Milagres (2015)

Directing the study to Clonazepam, this medication has the characteristic of acting on the central nervous system, which may inhibit some body functions. Regarding its action, Clonazepam enhances the action of the neurotransmitter Gamma-Aminobutyric Acid (GABA), the main inhibitory chemical mediator and depressant of the central nervous system. Regarding its time of action for the drug to start taking effect, Clonazepam, on average, can take up to 1 hour, depending on its pharmaceutical form, whether tablet, drop, or sublingual, the time it lasts in the body. It can vary between 12 (twelve) and 40 (forty) hours, depending on metabolism (ZORZANELLI et al., 2019).

In Brazil, the import of clonazepam is regulated by Resolution RDC No. 11 of 6/3/2013 (Brasil. Resolution - RDC No. 11, 2013). The production, transformation, manufacturing, fractionation, handling, packaging, distribution, transportation, repackaging, sale of medicines containing clonazepam are regulated by Port. No. 344, of 5/12/1998. Clonazepam belongs to List "B1" – List of Psychotropic Substances subject to blue "B" Prescription Notification, valid for 30 days, valid only in the issuing state, maximum quantity per prescription equivalent to 60 days of treatment (Brazil. Ordinance No. 344, 1998). The vague, unpleasant feeling of loneliness refers to anxiety, characterized by apprehension and fear, including great discomfort, a feeling of danger and strangeness to the people around. Castillo et al., (2020), in their contributions, presents anxiety recognized as pathological when they are exaggerated, disproportionate in relation to the stimulus, or qualitatively different from what is observed as the norm in that age group and interfere with the quality of life, comfort emotional or daily performance of the individual.

Regarding its forms, Clonazepam is present in pharmacies and authorized establishments, in different forms: in oral solution (drops), if there is a need to pay attention to the dosage and care when ingesting, it must be dripped with the bottle vertically and tap the bottom lightly to start the drip. When using the medication sublingually, it must be placed under the tongue to dissolve the medication in the saliva and then the drug is absorbed. Thus, medications taken sublingually, when using tablets in direct contact with the tongue, must remain for at least three minutes, without chewing or being swallowed; finally, using oral tablets, these must be swallowed with a little of non-alcoholic liquid, as stated by Moreira (2018).

### 3 METHODS

The methodology used to achieve the objectives of this work was qualitative, that is, both qualitative and quantitative methods were used, for a more detailed analysis of the topic.

This is applied research of an exploratory nature, according to Gil (2002), it allows the problem to be highlighted since there is greater contact with the topic, which may include bibliographical research or interviews. Being able to assume the condition of bibliographical research and case study.

#### 3.1 AUDIENCE STUDIED

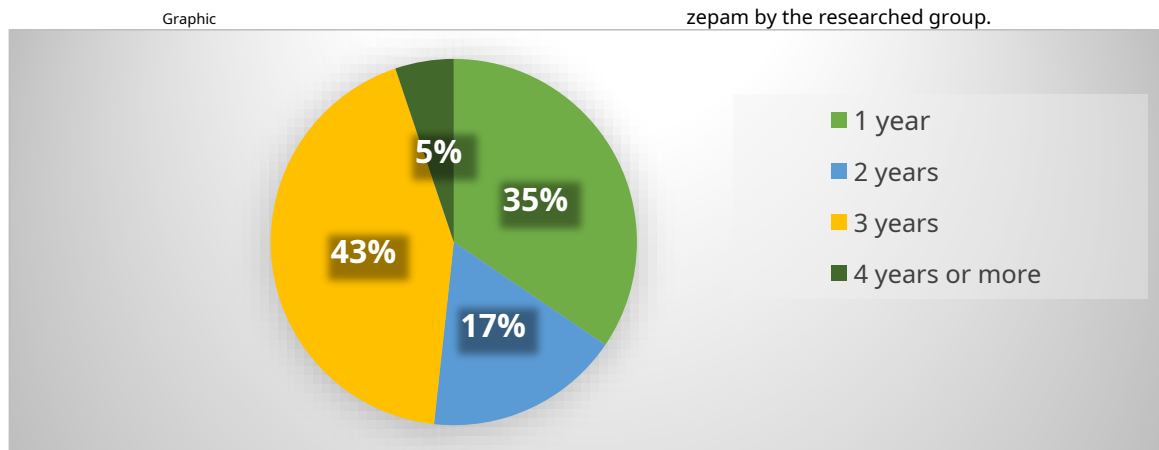
Customers of a pharmacy (whose identification was preserved) in the municipality of Santana do Ipanema located in the Sertão Alagoano region, who used the drug clonazepam, participated in this research. The information was collected in the period of November and December 2019, in the pharmacy itself with due authorization from the owners.

#### 3.2 DATA COLLECTION

To obtain the results achieved, a semi-structured questionnaire was produced with six multiple-choice questions. This questionnaire was applied in the pharmacy itself when the customer purchased the medicine and volunteered to answer the questions addressed. The identity of the interviewees was kept anonymous. It is worth noting that the questionnaire was administered at the pharmacy in December 2019, measures against the spread of Covid-19 had not yet been taken.

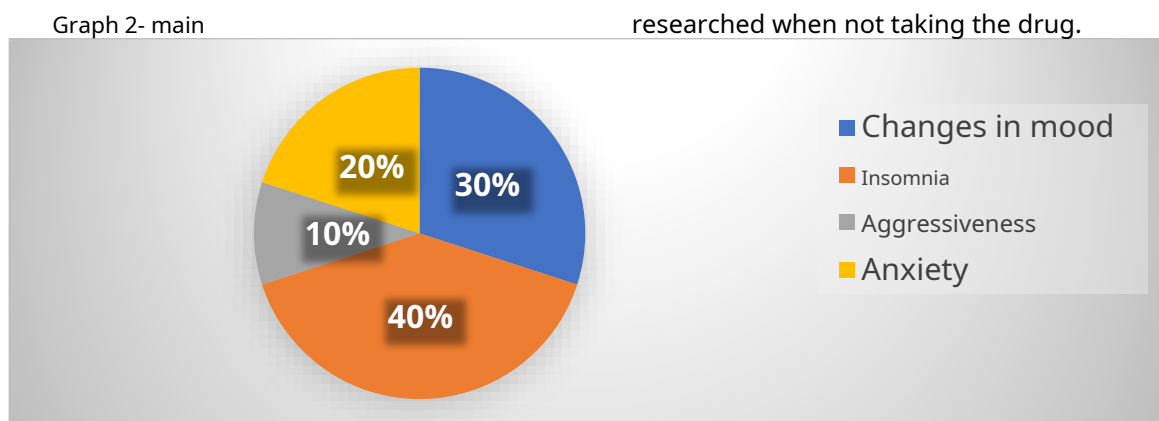
### 4 RESULTS AND DISCUSSIONS

The results obtained through the questionnaire were organized into graphs for better understanding.



Source: Authors 2021.

Of the 30 people who participated in the survey, 43% said they had been using clonazepam for 3 years, while 35% had been using it for 1 year, 17% for 2 years and 5% for 4 years or more. These data are alarming and demonstrate a degree of dependence on the drug in question. According to Rang (2007), the use of benzodiazepine medications such as clonazepam for a period that exceeds the six months of treatment that are normally prescribed by doctors, can lead the patient to chemical, physical and/or psychological dependence, which can lead to patients, new health problems and harm your quality of life. Nastasy (2008) comments that the best strategy to suspend the use of clonazepam is related to the gradual reduction of the medication, even if the patient is using therapeutic doses. It is important that the individual who uses the medication is aware of the importance of stopping the use of clonazepam. Psychological support at the time of weaning from clonazepam is essential. The public surveyed were asked questions about the main symptoms felt by them when they were without medication for a few days, and when asked, they responded:

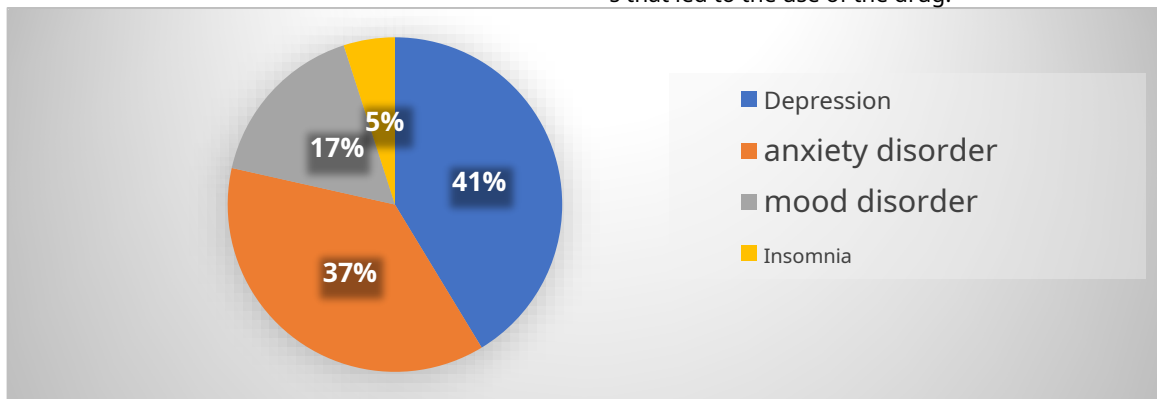


Source: Authors 2021.

The majority of those interviewed responded that when they did not take clonazepam for a few weeks, 40% reported having insomnia during this period, 30% suffered changes in mood, 20% reported an increase in the level of anxiety and 10% said they became more aggressive.

Gilman (2012) reports in his study that when stopping the use of clonazepam, patients go through a type of withdrawal crisis, with symptoms such as agitation, anxiety symptoms, tremors, headache, insomnia, difficulty concentrating, among others. This shows that abuse and prolonged use of the drug in question can cause the patient a series of complications, because when stopping treatment and experiencing some of the symptoms described above, the patient feels insecure and returns to taking the medication. When asked why they used that medicine, consumers pointed out that:

s that led to the use of the drug.

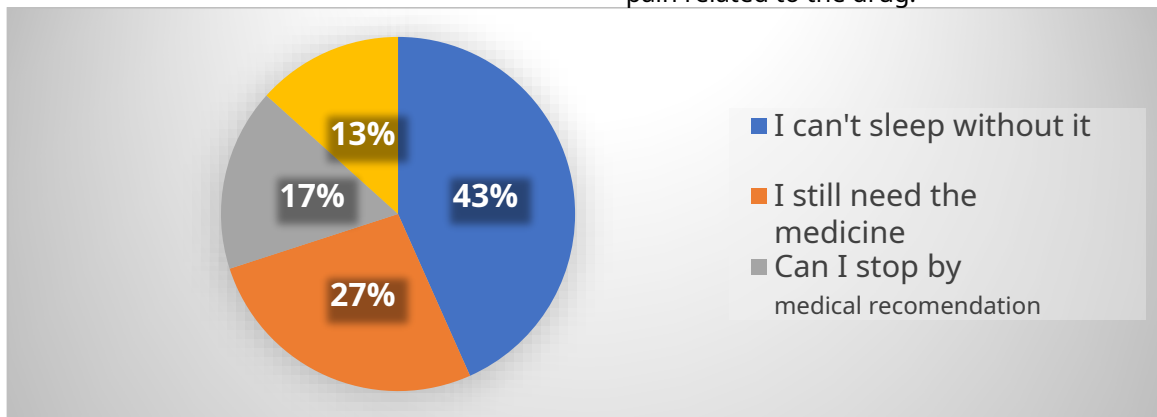


Source: Authors 2021.

Among the main reasons for using the medication, 41% of respondents stated that they started using the medication to treat symptoms of depression, 37% for anxiety disorders, 17% for mood disorders and 5% for the treatment of insomnia.

Similar research carried out by Cruz (2016) 47.34% of patients used clonazepam to treat depression, 42.11% to control anxiety, among other reasons, these data corroborate this research which also highlighted that the main reasons for use of clonazepam were depression and anxiety. When asked about the possibility of stopping using clonazepam, the group surveyed responded as follows:

pain related to the drug.

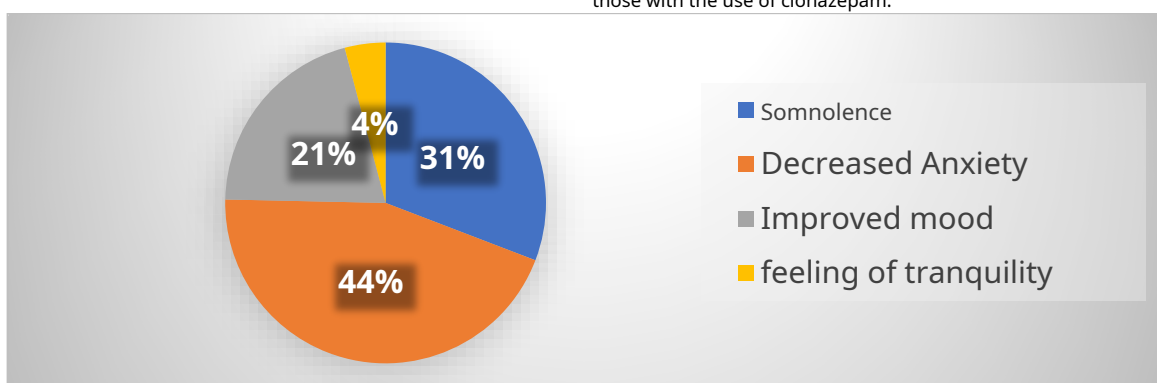


Source: Authors 2021.

Taking into account the long period of use of the medication (Graph 1), there is confirmation of a degree of dependence of patients on the drug to justify the continued use of the drug, 43% of interviewees state that they cannot sleep without taking the medication, 27% did not give a specific reason for continuing treatment, they just stated that they needed the medicine to feel well, 17% said they would stop using it if the doctor recommended it, and 13% did not know how to give their opinion on this.

Doctors, pharmacists and laboratories have a responsibility to promote the rational use of medication. According to the World Health Organization (WHO, 2016), there is rational use of medicines when the patient receives the medicine appropriate to their clinical needs, in the correct dose, for an adequate time and at the lowest possible cost for the patient and/or their partner. community. When asked about the session and the benefits that clonazepam brings when ingested, they pointed out:

those with the use of clonazepam.

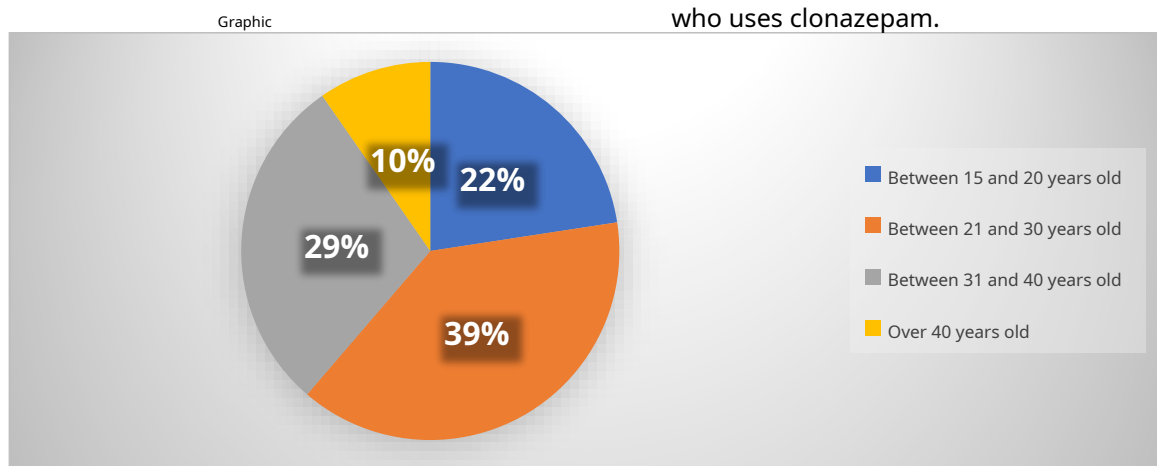


flowers 2021.

When taking clonazepam, 44% of the people interviewed reported a reduction in anxiety, 31% felt drowsy (remembering that clonazepam is indicated in most

cases for ingestion at night) 21% reported an improvement in mood a few minutes after taking the medication, and 4% reported a feeling of calm.

Cruz (2016), demonstrates in his studies data that corroborate this research as feelings of tranquility, sleep, relaxation and a pleasant sensation are also reported after ingesting clonazepam. When asked about the age at which the interviewee started taking clonazepam, the following results were obtained:



Source: Authors 2021.

Graph 6 shows that 39% of patients who participated in the research and used clonazepam were between 21 and 30 years old, 29% were between 31 and 40 years old, 22% were between 15 and 20 years old, and 10% were over 40 years. These data demonstrate that the start of use of the medication has become increasingly earlier.

Such data differ from a survey carried out by Felipe in 2016, which showed that the majority of people who used clonazepam were between 40 and 60 years old. This shows that over the years this medicine has been used by the population at an increasingly younger age.

It is worth mentioning that within the interviewed public, 69.23% were female and 30.77% male, corroborating the research carried out by Souza (2013). Where the patients interviewed were mostly female (73.68%), this reinforces that women are the biggest users of psychoactive medications, and that they suffer most from psychiatric disorders, that they most seek relief from stress, that they live longer than men, and for this reason psychologically suffer more from the effects of age, are also the ones who most seek medical help, who find it easiest to talk about their problems and anxieties, who most accept the use of psychotropic medications (LARANJEIRA; CASTRO, 1999; ALVARENGA et al, 2007; NORDON et al, 2009;

## 5 FINAL CONSIDERATIONS

Benzodiazepines constitute the group of psychotropic drugs most used in clinical practice, although self-medication is not recommended, being the extreme responsibility of those responsible, thus making it necessary to publicize the effects of the medication to the population.

The use of the medication has been present in users' lives for at least 3 years, while the second highest percentage (35%) represents the most recent users with at least 1 year of using the medication, aged 21 and over. Of those who use the medication, the main consequences in order of greatest representation are insomnia, followed by changes in mood, anxiety and aggressiveness.

Related to the reasons that led to the use of the drug, 41% of those interviewed, present symptoms of depression and 37% use it for anxiety and mood disorders, as well as to treat insomnia. Finally, the majority of pharmacy patrons depend on the use of the medication, for reasons of having difficulty sleeping, although it has benefits such as reduced anxiety, drowsiness and improved mood.

## REFERENCES

ALVARENGA JM, Filho AIL, Firmo JOA, Costa MMFL, Uchoa E. Prevalence and sociodemographic characteristics associated with benzodiazepines use among community dwelling older adults: The Bambuí Health and Aging Study (BHAS). **Brazilian Journal of Psychiatry** 2007; 30(1):7-11.

AZEVEDO, AJP; ARAUJO, AA; FERREIRA, MAF. Consumption of benzodiazepine anxiolytics: a correlation between SNGPc data and sociodemographic indicators in Brazilian capitals. **Science & Public Health**, 21(1):83-90, 2016.

Brazil. Ordinance No. 344, of May 12, 1998 – Approves the Technical Regulation on Substances and medicines subject to special control – **Health Surveillance Secretariat of the Ministry of Health**, Brazil.

CASTILLO, ARGL; RECONDO, R; ASBAHR, FR; MANFRO, GG. T. Anxiety disorders. **Rev Bras Psiquiatr** 22(Supl II):20-3, 2000.

CRUZ, N. Lourenco de Matos. Clonazepam, a bestseller in Brazil. Why? 2016. Available at: <https://core.ac.uk/download/pdf/160027736.pdf> Accessed on: Jan 18 2020  
FELIPE, Karen Caroline de. Approach to the Use of Clonazepam Dispensed by the Municipal Drugstore in Ariquemes–Rondônia. 2016. Available at: <http://repositorio.faema.edu.br/handle/123456789/1121> Accessed on: Jan 18 2020

FIRMINO KF, ABREU MHNG, PERINI E. MAGALHAES SMS. **Factors associated with the use of benzodiazepines in the municipal health service of the city of Coronel Fabriciano**, Minas Gerais, Brazil 2011 27(6): p1223-1232. Available in: <https://www.scielo.br/j/csp/a/Hkfn7HNQNcPsTx3bXvRgStv/abstract/?lang=pt&format=html>  
Accessed on: Jan 23 2020

GIL, A.C. **How to design research projects**. 4th ed. São Paulo: Atlas SA, 2002. Available at:  
[http://www.uece.br/nucleodelinguasitaperi/dmdocuments/gil\\_como\\_elaborar\\_projeto\\_de\\_pesquisa.pdf](http://www.uece.br/nucleodelinguasitaperi/dmdocuments/gil_como_elaborar_projeto_de_pesquisa.pdf) Accessed on: 25 Jan. 2020

GOODMAN JG, Gilman AG **The Pharmacological Bases of Therapy**. 12th edition. Rio de Janeiro: McGraw-Hill; 2012. p. 458-468.

LARANJEIRA R & Castro LA. Abuse potential of benzodiazepines. In: Bernik MA. **Benzodiazepines, four decades of experience**. 1ed. São Paulo: Edusp; 1999. P.187-198. Available in: [https://books.google.com.br/books?hl=pt-BR&lr=&id=4MABMI1eLwC&oi=fnd&pg=PA187&dq=LARANJEIRA+R+%26+Castro+LA.+Potencial+de+abuso+de+benzodiazep%C3%ADnicos.+In:+Bernik+MA.+Benzodiazep%C3%ADnicos,+quatro+d%C3%A9cades+of+experi%C3%AAs.+1ed.+S%C3%A3o+Paulo:+Edusp%3B+1999.+P.187+198.&ots=EAmEPD4ZZx&sig=KKXQ6if7maC5pNF795wTjUhdJo&redir\\_esc=y#v=onepage&q&f=false](https://books.google.com.br/books?hl=pt-BR&lr=&id=4MABMI1eLwC&oi=fnd&pg=PA187&dq=LARANJEIRA+R+%26+Castro+LA.+Potencial+de+abuso+de+benzodiazep%C3%ADnicos.+In:+Bernik+MA.+Benzodiazep%C3%ADnicos,+quatro+d%C3%A9cades+of+experi%C3%AAs.+1ed.+S%C3%A3o+Paulo:+Edusp%3B+1999.+P.187+198.&ots=EAmEPD4ZZx&sig=KKXQ6if7maC5pNF795wTjUhdJo&redir_esc=y#v=onepage&q&f=false) Accessed on: February 3rd. 2020.

MANGINI JR, Zs Antonio; CAPONI, S. Noemi Cucurullo. Conditions related to the chronic use of clonazepam in Brazil: a life story. **Interdisciplinary Research Notebooks in Human Sciences**, v. 15, no. 106, p. 117-139, 2014. Available at: <https://periodicos.ufsc.br/index.php/cadernosdepesquisa/article/view/1984-8951.2014v15n106p117> Accessed on: 14 Feb. 2020

MILAGRES, Christiane Reis. Meanings attributed to rivotril in the media: a study of reports published on the websites of the magazines Superinteressante and Trip. *CES Magazine*, v. 27, no. 1, p. 313-332, 2015.

MOREIRA, P; BORJA, A. **Benzodiazepines: use and abuse in elderly patients**. Research and [ExtensionOswaldoCruz]. 2018. Available at: [http://revista.oswaldocruz.br/Content/pdf/Edicao\\_19](http://revista.oswaldocruz.br/Content/pdf/Edicao_19) Accessed on: February 14th. 2020

Nastasy, H.; Ribeiro, M.; Marques, ACPR Abuse and Dependence on Benzodiazepines. Brazilian Association of Psychiatry/Project Guidelines – Brazilian Medical Association and Federal Council of Medicine, 2008. Available at: <http://www.abp.org.br/portal/educacao/diretrizes> Accessed on: 20 Feb. 2020

NORDON DG, AKAMINE K, Novo NF, HUBNER CVK. Characteristics of the use of benzodiazepines by women seeking treatment in primary care. **Rev Psychiatr**. RS 2009; 31(3):152-8.

WHO – World Health Organization – **Pharmacological treatment of mental disorders in primary health care**. Washington, DC OPS. 2010 – ISBN: 978-92-75-33113-2. Available in:

[http://www.who.int/mental\\_health/management/psychotropic\\_book\\_spanish.pdf](http://www.who.int/mental_health/management/psychotropic_book_spanish.pdf) Accessed on: February 20th. 2020

RANG, HP et al. Anti-inflammatory and immunosuppressive drugs. **Rang & Dale Pharmacology**. 6th edition. Rio de Janeiro, RJ: Elsevier, 2007.

RICHARDSON, Kathryn et al. Use of medications with anticholinergic activity and self-reported injurious falls in older community-dwelling adults. *Journal of the American Geriatrics Society*, vol. 63, no. 8, p. 1561-1569, 2015. Available at: <https://agsjournals.onlinelibrary.wiley.com/doi/abs/10.1111/jgs.13543> Accessed on: February 23rd. 2020

SCHWEIZER E, RICKELS K. Benzodiazepine dependence and withdrawal: a review of the syndrome and its clinical management. *Acta Psychiatrica Scand* 1998; (98 - Suppl.393): 95-101. Available in: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1600-0447.1998.tb05973.x> Accessed on: February 14th. 2020

Souza ARL, Opaleye ES, Noto AR Contexts and patterns of misuse of benzodiazepines among women. *Ciênc. collective health* vol.18 no.4 Rio de Janeiro Apr. 2013. Available at: <http://dx.doi.org/10.1590/S1413-81232013000400026>

ZORZANELLI, RT; GIORDANI, F; GUARALDO, L; MATOS, G; BRITO JUNIOR, AG; OLIVEIRA, MG; SOUZA, RM; MATOS, RQM; ROZENFELD, S. Consumption of the benzodiazepine clonazepam (Rivotril®) in the state of Rio de Janeiro, Brazil, 2009-2013: ecological study. **Public health science**.24 no.8.2019.