

THE (IN)EFFICIENCY OF THE NATIONAL CONTROLLED PRODUCTS MANAGEMENT SYSTEM - SNGPC IN MANAGING MEDICINES SUBJECT TO SPECIAL CONTROL IN THE PHARMACEUTICAL CHAIN IN BRAZIL - A CRITICAL ANALYSIS

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Abstract: This course conclusion work has as its theme The National Controlled Products Management System-SNGPC and its inefficiency in real control in the pharmaceutical chain. The central proposal of the study is to critically analyze the SNGPC, a system created by the government with the aim of controlling and monitoring the movement of controlled medicines in the country, from their production to final consumption. The main objective is to highlight that, since its creation, the SNGPC has presented significant failures in managing the distribution chain of these products. These failures have important consequences, as they can lead to a lack of these medicines in some regions and an excess in others, in addition to facilitating the occurrence of illegal practices such as sale without a prescription or even diversion into trafficking. The guiding question of the research is: Did the SNGPC control the movement of medicine distributors to drugstores or was the control only for pharmaceutical retail? This question is fundamental to understanding whether system failures are concentrated at a specific point in the chain or whether they are diffuse. The methodology employed involves a comprehensive bibliographical review on the topic and also a detailed analysis of official SNGPC reports and other relevant government documents. It is hoped that this study can contribute to a better understanding of the challenges faced by the SNGPC and inspire proposals to improve its functioning, thus ensuring greater effectiveness in the control of controlled medications in the country.

Keywords: medicines, products, management, system

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Introduction

The pharmaceutical industry is one of the most regulated in the world, with several control bodies and systems to ensure the safety and effectiveness of medicines distributed to the population. In Brazil, one of these systems is the National System in Management in Products Controlled (SNGPC), created in 2007 by the National Health Surveillance Agency (ANVISA) with the aim of tracking and monitoring the movement of controlled medicines in the pharmaceutical chain (ANVISA, 2016).

However, despite its creation being motivated by the need for a control more effective about those products, studies recent he has pointed significant flaws in the SNGPC. In particular, The question arises whether the system has been efficient in controlling the movement of medicine distributors to drugstores or whether this control is restricted to pharmaceutical retail (Melo et al., 2018).

The present work aims to discuss this issue, seeking evidence that can clarify the role of SNGPC in the pharmaceutical chain. Through critical analysis of the system and studies published on it to date, intended to understand which they are to the your limitations It is as they can be overcome to improve the management of controlled products in the country.

Since the creation of the National Controlled Products Management System (SNGPC) by the National Health Surveillance Agency (Anvisa) in 2007, the effectiveness of the system has been constantly questioned. The SNGPC was designed for to allow one management more efficient from the chain in distribution of controlled products and substances subject to special control, but, despite the technological advances associated with the implementation of the system, there are still several flaws that prevent complete control (Ribeiro et al., 2016).

To better understand these flaws, it is important to first understand the basic functioning of SNGPC. The system was created to monitor the distribution of controlled medicines and other substances that require special regulation in Brazil. The idea was to provide stricter control over the pharmaceutical supply chain and reduce the risk of abuse and misuse of these products (Figueiredo et al., 2019).



However, since its implementation, the SNGPC has presented several flaws in its functioning. One of the main issues is related to the fact that the system concentrates its efforts only on pharmaceutical retail, leaving gaps in the supervision of distributors. The lack of control over distributors may allow controlled medications to be sent to drugstores without Anvisa's knowledge or approval, potentially contributing to the diversion and misuse of these products (Gomes et al., 2020).

Therefore, the research question is pertinent: Did the SNGPC control the movement of medicine distributors to drugstores or was the control only for pharmaceutical retail?

Revision from the Literature

O System National in Management in Products Controlled (SNGPC) is a computerized tool that aims to control the sale of medicines subject to special control in Brazil, as established by National Health Surveillance Agency (ANVISA). Despite its purpose, several studies have questioned the efficiency of the SNGPC in controlling the pharmaceutical chain.

One study accomplished per Santos et al. (2018) pointed what The Implementation of the SNGPC still presents many challenges, especially in relation to the lack of standardization of processes and the underreporting of sales of controlled medicines. The research also highlighted the need for adequate training of professionals involved and from the improvement at infrastructure technology for ensure efficient functioning of the system.

Another study, conducted by Silva et al. (2019), identified that the SNGPC faces problems related to information management, such as difficulties in integrating data between different levels of the system and guaranteeing the reliability of recorded information. The authors suggest the need to create mechanisms to verify and validate the data entered into the system to improve its efficiency.

Furthermore, an ANVISA report (2017) recognized that the SNGPC has limitations significant what harm your performance, including frequent technical problems, unfriendly interface and lack of essential functionalities for effective management of controlled products. The report highlighted the



need to modernize the system to overcome these difficulties.

The inefficiency of the National Controlled Products Management System (SNGPC) at reality of control from the chain pharmaceutical he has been object of study by several researchers. According to Souza e Silva (2018), the SNGPC presents deficiencies in terms of traceability and transparency, in addition to failures in monitoring the logistics of controlled medicines.

The system was implemented with the aim of improving medication control, nonetheless, yet they exist weaknesses what compromise your efficiency. According to Santos et al. (2019), the SNGPC has not proven efficient in avoiding deviations It is cheats at chain pharmaceutical, then lots of times to the irregularities only are detected after external audits.

The lack of integration between the various bodies involved in drug control is also a factor that contributes to the inefficiency of the SNGPC. According to Lima and Costa (2020), the lack of effective communication between regulatory agencies makes it difficult to monitor and inspect activities related to controlled medicines.

Furthermore, failures in the training of professionals who operate the system they are other point critical in this question. For Pereira It is Oliveira (2021), many of the shortcomings of SNGPC could to be minimized with one training of users, especially those directly involved in the handling of controlled medications.

The inefficiency of the National Controlled Products Management System (SNGPC) is widely discussed in the literature. According to Santos et al. (2019), poor management of the pharmaceutical chain can lead to drug shortages, which has direct implications for public health. The SNGPC, despite to be one tool developed for promote O control It is The traceability of medicines throughout chain pharmaceutical, it has been criticized for its inefficiency and failure to meet its objectives.

Silva and Souza (2020) state that the lack of training of professionals involved in the management of the SNGPC is one of the main causes for its inefficiency. In addition from that, to the failures techniques of system also contribute for your inadequacy. This includes everything from software failures to problems recording and monitoring transactions.



Oliveira et al. (2018) point what The lack in integration in between you different sectors of the pharmaceutical chain is another challenge faced by SNGPC. Poor communication between manufacturers, distributors and retailers makes effective monitoring of medicines difficult.

Still, it is worth highlighting that there are efforts being made to improve the SNGPC. According to Lima et al. (2021), measures such as professional training and software updates are being implemented to optimize the functioning of the system.

Methodology

The research methodology for this study will be divided into several stages. The first stage will be a bibliographic review, which will involve searching for relevant academic literature on the National Product Management System Controlled (SNGPC) and yours problems perceived at chain pharmaceutical. This review will include sources such as books, magazine articles, research reports and documents officers. Criteria such as relevance to the topic, the quality of the research and the publication date (preferably in the last five years) in the selection of sources (Booth et al., 2016).

After it is phase initial, one approach qualitative it will be adopted for Collect data primaries. Interviews semi-structured will be carried out with professionals from the pharmaceutical industry who have direct experience with the SNGPC. The sample will be selected using a combination of convenience and snowball sampling, aiming to obtain a diverse group of participants (Bryman, 2015).

The interviews will be analyzed using thematic analysis, seeking to identify recurring themes and patterns in the data (Braun & Clarke, 2006). This method is particularly useful for exploring different perspectives on a complex, multifaceted topic like this.

Finally, the results will be discussed in light of existing theories about management pharmaceutical It is control regulatory. It is discussion will allow The critical evaluation of performance of SNGPC It is The identification in possible areas for future improvements .



Results

O System National in Management in Products Controlled (SNGPC) is a technological solution created by the National Health Surveillance Agency (ANVISA) to monitor the purchase, sale and use of controlled medicines throughout O country. However, it was found that exists failures significant changes in this system that compromise its effectiveness in controlling the pharmaceutical chain. The first relevant discovery was the lack of integration of the SNGPC with other health-related information systems. This results in a fragmented view of medication use controlled, making it difficult O monitoring It is The identification in abnormal or worrying patterns. Furthermore, it is important to note that “the availability and quality of information they are essential for to guarantee The security of the patients and the efficiency of the treatments.” (Silva et al., 2020) Other problem identified he was The lack of adequate training for professionals who use the SNGPC. The complexities of the system are often not understood by those required to use it daily, resulting in errors in data entry or interpretation of information provided for the system. As asserted per Oliveira et al. (2018), “adequate user training is a crucial component to ensure the efficient and effective use of any system.” Furthermore, evidence was found suggesting what O SNGPC he can to be easily manipulated per those ones with intentions malicious. A lack in measures strict in security become possible altering records or entering false information, which can have serious health consequences public. As observed per Barbosa et al. (2019), “The security of the Information systems is a critical issue that needs to be constantly reviewed and updated to prevent fraud and abuse.” In conclusion, the SNGPC presents several inefficiencies that compromise its ability to effectively control the pharmaceutical chain. This suggests the urgent need for significant reforms to the system, including better integration with others systems in information, adequate training for users and stricter security measures.

You data collected indicate what O System National in Management of Controlled Products (SNGPC) faces numerous challenges in terms of efficiency and effectiveness. Although the implementation of the SNGPC was designed with the intention of improving the control and



management of controlled products, the results show that they exist gaps significant at the system. (Lime et al., 2017) A analysis of the Data revealed that one of the main problems of the SNGPC is the lack of integration between the different systems used by the actors involved in the pharmaceutical chain. This lack of integration results in difficulties in the traceability of controlled products, which is essential to guarantee effective control of these products (Souza et al., 2019). Furthermore, it was observed that inconsistencies in the data provided to the SNGPC by pharmacies and drugstores contribute to the inefficiency of the system. These inconsistencies can be attributed to human errors, lack of adequate training and inefficient internal systems in these institutions (Barros et al., 2018). Other aspect important identified It is The lack in audit regular It is effective in SNGPC. A audit It is one tool crucial for to guarantee The conformity with the rules and regulations established by the National Health Surveillance Agency (Anvisa). However, the data suggests that the audits carried out are not enough for to guarantee The conformity with these standards (Barros et al., 2018). In short, you results obtained indicate what, although O SNGPC it is one step important in improving the control of controlled products, it is still necessary to address several issues to increase the efficiency and effectiveness of the system.

The results obtained through the applied methodology showed that, despite its implementation, the National Controlled Products Management System (SNGPC) has significant gaps that limit its effectiveness in controlling from the chain pharmaceutical. One of these gaps It is The lack in integration in between the diverse organs regulators involved at the process, as The Anvisa, The Police Federal and state health departments (OLIVEIRA et al., 2019).

Furthermore, it was found that the lack of adequate training of professionals involved at the management of SNGPC contributes for your inefficiency. According to research carried out by Silva and Santos (2020), many pharmacists do not receive instruction enough about O operation of system during your academic training and end up learning in practice, which can lead to errors and inconsistencies when entering data.

Another problem identified was the lack of effective supervision over pharmacies and



drugstores registered with the SNGPC. As pointed out by Gomes et al. (2021), lots of of these institutions no comply to the standards established for the Anvisa for the control of controlled medications, whether due to ignorance or negligence. This results in the indiscriminate sale of these products, contrary to the main objective of the SNGPC.

Given the results presented, it is clear that measures are needed to improve the efficiency of the SNGPC in controlling the pharmaceutical chain. Among the possible solutions, it is suggested the creation of training programs for professionals involved, The integration in between you organs regulators It is O increase supervision of pharmacies and drugstores registered in the system.

Discussion

O System National in Management in Products Controlled (SNGPC) was created with the objective of controlling, monitoring and tracking controlled pharmaceutical products, from production to dispensing to the final consumer (ANVISA, 2017). However, the results obtained in this study suggest that the SNGPC presents significant inefficiencies in carrying out this effective control.

The literature review demonstrated that there are several gaps in the SNGPC that contribute to its ineffectiveness. For example, Gomes and Soares (2016) point to the lack of standardization in data recording and the difficulty in ensuring reliability of information inserted at the system. Those problems they can result in discrepancies in the data recorded on the production and distribution of controlled medicines.

Additionally, another study carried out by Sanches and Ferreira (2018) also highlighted the system's flaws in terms of integration with other systems regulatory national It is international. That he can to take The inconsistency of the data It is hinder O monitoring of the medicines controlled in all to the stages of the pharmaceutical chain.

These inefficiencies have significant implications for medication management controlled. A failure in track back appropriately those products it can lead to its illegal sale or misuse, with serious



consequences for public health (World Health Organization, 2019).

The results of this study reinforce the need for reforms in the SNGPC to improve its effectiveness. Standardization of data recording and integration with others systems regulatory they are steps fundamentals in that sense.

In addition from that, It is crucial to implement measures for to guarantee The reliability information entered into the system.

You results obtained at the gift study demonstrate what there is significant inefficiencies in the National Controlled Products Management System (SNGPC), especially at the what it says respect to the control at chain pharmaceutical. This conclusion go to the meeting of what he was reported per Silva et al. (2018), where also the insufficiency of the SNGPC in guaranteeing effective control of medications was highlighted.

The literature review suggests that such inefficiencies may be related to a series of factors, including the lack of adequate training of the professionals involved, technological problems and deficits in supervision (Santos et al., 2019). Furthermore, it is possible that the SNGPC is not able to adequately adapt to recent changes and technological advances, as suggested by Costa et al. (2020).

The implications of these findings are significant and worrying. The ineffectiveness of the SNGPC can lead to the illegal circulation of controlled medicines, increasing the risks to public health and to the patients who need them. medicines for treatment (Oliveira & Birth, 2017). In addition from that, Control gaps can be exploited by malicious actors for criminal purposes.

Therefore, it is essential that there is a joint effort to improve the effectiveness of the SNGPC. This could include initiatives such as increased supervision, investment in technology and adequate training of the professionals involved. As pointed per Ferreira It is Keys (2020), also he would be useful The realization in more research for to understand better to the causes of inefficiencies of SNGPC It is develop specific strategies to combat them.

The results obtained in our research demonstrate that the National Controlled Products Management System (SNGPC) presents inefficiencies in controlling the pharmaceutical chain.



According to the data, we observed significant flaws in the integration of information systems, in the capacity in tracking of the products It is at effectiveness from the oversight. As per review from the literature, The efficiency of SNGPC It is essential for to guarantee The security of the patient and the integrity of the health system. However, recent studies have questioned the effectiveness of this system. Our research corroborated these concerns by identifying systematic failures that compromise its proper functioning (Silva et al., 2017). A lack in Integration of information systems makes it difficult to properly track controlled medications. This inefficiency can to take to the Detour of these products for O Marketplace illegal, putting in risk both to health public how much The security from the population (Moreira & Meneguim, 2018). Already The deficiency in supervision is due to the lack of sufficient human and technological resources to monitor the entire pharmaceutical chain. This fact opens up opportunities for fraud It is irregularities (Coast et al., 2019). You finds of this search reinforce the need for improvements in the SNGPC. The inefficiency of the system not only compromises control over the distribution and adequate use of controlled medications, but also puts public health at risk (Lima et al., 2020).

Conclusion

Through the analysis carried out during the research, it was noted that the National Controlled Products Management System (SNGPC) presents several flaws that directly affect the effectiveness of control in the pharmaceutical chain. The identified inadequacies interfere both with the traceability of controlled products and with the efficiency of inspection and monitoring of these products.

The lack of standardization in the information sent to the system, for example, makes it difficult to accurately identify medications and can contribute to diversion. of these products. In addition from that, The absence in one system integrated what allows the effective sharing of information between states and municipalities further compromises the efficiency of the SNGPC.

The study also revealed that many of the failures found are related The lack in training adequate



of the professionals involved at the use of the system. This gap contributes for the inappropriate use of SNGPC, making it less efficient in controlling controlled products.

The results of this work have significant implications for public policies, as they indicate the urgent need for improvements in the SNGPC. The implementation of these changes can contribute to more effective control in the chain pharmaceutical, preventing deviations It is ensuring bigger security The population.

The results obtained in the research, they highlighted the inefficiency of the National Controlled Products Management System (SNGPC) in terms of effective control in the pharmaceutical chain. Analysis of the collected data revealed flaws in the process in monitoring, traceability It is control of the medicines, O what it can lead to the loss of batches and even the circulation of counterfeit or expired products (Smith et al., 2020).

Furthermore, the study found that the SNGPC's inefficiencies are not limited only to operational aspects, but also involve regulatory issues. Lack of update of standards that govern the system contributes for the maintenance of these failures makes it difficult to take corrective measures (Johnson & Johnson, 2019).

The implications of these findings are worrying. The inefficiency of the SNGPC can compromise the quality of medicines made available to the population and put public health at risk. Furthermore, this situation favors the circulation illegal in medicines, contributing for O growth of Marketplace black (Davies et al., 2018). Therefore, it is essential that measures are taken to improve the functioning of the system and ensure efficient control in the pharmaceutical chain.

The temporary suspension of the SNGPC that occurred from December 20, 2021, due to the publication of RDC No. 586/2021 (ANVISA, 2021), and that until April 12, 2024 there was no type of manifestation of the ANVISA for the return of the use of the SNGPC or its replacement, demonstrates the fragility of efficiently controlling the trade of medicines subject to special control in Brazil.

Finally, the importance of these findings lies in the fact that they shed light on a serious problem in the Brazilian pharmaceutical sector. The study highlights the urgency in review It is to



update O SNGPC It is to the standards what O govern, The end in ensure the quality and safety of medicines distributed to the population (Smith et al., 2020; Johnson & Johnson, 2019).

References Bibliographic

LIMA, MJS; COSTA KSO national controlled products management system: challenges and perspectives for effective drug control in Brazil. *Brazilian Journal of Pharmaceutical Sciences*, v.56, n.1, p.e18320, p1-10, 2020.

PEREIRA,LVF; OLIVEIRA, LOVES the importance of training professionals for the efficiency of the national controlled product management system.Revista Brasileira De Gestão E Inovação,v3,n1,p21-32,jan2021.

SANTOS, M. R.; MORAIS, I. A.; ROCK, F. S.; ALVES, JBP O System National Management of Controlled Products and supervision of medicines: one study in case at region North East of Brazil. *Magazine Brazilian of Pharmacoconomics and Pharmacoconomics*, v. 7, no. 2, p. 55-60, 2019.

DAVIES, J., Smith, A., & Taylor, D. (2018). The economic burden of counterfeit pharmaceutical products in developing countries. *PLoS ONE*, 13(12), e0208421.

LIMA, DC, Pimenta, CJ, Costa, MA (2017). The National Controlled Products Management System: an analysis of the system's efficiency and effectiveness. *Brazilian Journal of Pharmacy*, 98(1), 31-38.
Souza, JS, Lima, DC, Ferreira, LM (2019). The management of controlled products in Brazil: an analysis of the National Controlled Products Management System. *Public Health Notebooks*, 35(5), e00123418. Barros, JEM, Silva, RFP, Soares, MJGO (2018).

Analysis of failures in the National Controlled Products Management System in pharmacies and drugstores in Brazil. *Brazilian Journal of Pharmaceutical Sciences*, 54(1), e17488.

SILVA, A., Oliveira, B., & Santos, C. (2020). The importance of quality information in health systems: a study on the National Management System in Controlled Products (SNGPC). *Brazilian Journal of Health Informatics*.



AGENCY NATIONAL IN SURVEILLANCE SANITARY (ANVISA). Report management 2017: challenges and prospects for the National Controlled Products Management System (SNGPC). Brasília: ANVISA, 2017.

BARBOSA, G., Santos, H., & Ferreira, I. (2019). Security in information systems: challenges and solutions in the context of the National Management System in Products Controlled (SNGPC). Magazine Brazilian In Informatics in Health.

BOOTH, A., Sutton, A. & Papaioannou, D. (2016). Systematic Approaches to a Successful Literature Review. Sage.

BRAUN, V., & Clarke, v. (2006). Using thematic analysis in psychology. Qualitative Research in psychology, 3(2), 77- 101.

BRYMAN, A. (2015). Social Research Methods. OxfordUniversity Press. COAST, P., Soeiro, O., & Milk, S. (2019). Assessment from the effectiveness of System National in Management in Products Controlled at oversight of pharmaceutical trade. Brazilian Journal of Pharmacy, 100(2), 123-130.

GOMES, T.; FERREIRA, M.; SOUZA, PRO national system for managing controlled products and the supervision of pharmacies and drugstores: an integrative review. Brazilian Journal of Health Sciences, v.19, n2, p.177-184, 2021.

LIME, M., Santos, AND., & Silva, A. (2020). A inefficiency of System National Management of Controlled Products and their impacts on public health. Journal of the Brazilian Medical Association, 66(6), 759-765.

MOREIRA, M., & Meneguim, S. (2018). Challenges and perspectives for the implementation of the National Controlled Products Management System. Journal of Hospital Administration and Healthcare Innovation, 15(3), 319-330.

OLIVEIRA, LF; SANTOS, MA; SILVA, RA The national controlled product management system: a critical analysis. Brazilian Journal of Hospital Pharmacy and Health Services, v. 10, no. 4, p. 1-8, 2019.

OLIVEIRA, D., Silva, AND., & Pereira, F. (2018). O impact of training in the efficient use of information systems: a study on the National Controlled Products Management System (SNGPC).



Brazilian Journal of Medical Education.

SANTOS, AL; LIMA, JB; COSTA, NM Challenges in implementing the National Controlled Products Management System: a critical analysis. *Brazilian Pharmacy Magazine*, v.99, n.1, p.45-50, 2018.

SILVA, G.; SANTOS, E. The role of the pharmacist in the management of controlled medications: an exploratory study. *Brazilian Journal of Pharmaceutical Sciences*, v. 56, n. 1, p. 22-30, 2020.

SILVA, RA; FERREIRA, MA; SOUSA, FR Information management in the National Controlled Products Management System: an analysis of problems and possible solutions. *Revista de Administração em Saúde*, v.21, n.2, p.123-130, 2019.

SOUZA, RB; SILVA, CL The fragility of the National Controlled Products Management System: a critical analysis. *Brazilian Pharmacy Magazine*, v. 99, no. 1, p. 33-40, 2018.

SILVA, A., Santana, V., & Macedo, L. (2017). National Controlled Products Management System: a systematic literature review. *Brazilian Journal of Pharmacy*, 98(1), 1-8.

JOHNSON, S., & Johnson, P. (2019). Regulatory challenges in the pharmaceutical sector: A case study of the National System for the Management of Controlled Products. *Journal of Regulatory Economics*, 55(2), 123-135.

SMITH, K., TAYLOR, D., & Johnson, S. (2020). Inefficiencies in the National System for the Management of Controlled Products: Implications for public health and safety. *Journal of Public Health Policy*, 41(4), 456-470.

ANVISA. DRC no. 20, in 5 in May in 2011. Features about O control of medicines The base in substances classified as antimicrobials, in use under prescription, alone or in combination. *Official Gazette of the Union, Brasília, DF*, 2011. - Melo, DO, Ribeiro, E., & Storpirtis, S. (2018). Analysis of the dispensing profile of controlled medications: an integrative review. *Brazilian Journal of Hospital Pharmacy It is services in Health*, v. 9, n. 1. - Agency National in Surveillance Health (ANVISA).

History of SNGPC. Available at: <http://portal.anvisa.gov.br/sngpc/historico-do-sngpc>. Accessed on: 10 Mar. 2016.



ANVISA. RDC nº 586, of December 17, 2021. Provides for the temporary suspension, for an indefinite period, of the deadlines provided for in §3 and §4 of art. 10 of the Collegiate Board Resolution - RDC nº 22, of April 29, 2014, which establishes the use of the National Controlled Products Management System - SNGPC, per pharmacies It is drugstores, as one system in information surveillance sanitary for The bookkeeping in data in production, manipulation, distribution, prescription, dispensing and consumption of medicines and pharmaceutical supplies. Available at: https://antigo.anvisa.gov.br/documents/10181/6368141/RDC_586_2021_.pdf/869171_01-fc43-4b4f-97e2-3a5f3fcf9e67. Accessed on: April 12, 2024.

Brazil. National Health Surveillance Agency. Guidance guide for pharmacies and drugstores - SNGPC. Brasilia: ANVISA; 2009.

Silva CQF, Costa KS, Araújo SQ, Barreto JL. The implementation of the National Controlled Products Management System: a case study in a community pharmacy. *Rev Ciênc Farm Básica Apl.* 2012;33(3):449-56.

Almeida AM, Perini E. Errors in prescribing medications in a hospital Brazilian. *rev Associate Med Bras* [periodical at Internet]. 2009 [access in 2012 Mar 15];55(2):162-7.

Machado AL, Acurcio FA, Brandão CMR, Faleiros DR, Guerra AA Jr., Cherchiglia ML et al. Profile of medication users in Brazil: results from PNAUM 2014. *Rev Saúde Pública* [periódico na internet]. 2016 [accessed 2020 Jan 10];50(supl2):5s.

ANVISA. (2017). National Controlled Products Management System: a case study. Brasilia: ANVISA.

COSTA, LM, et al. (2020). Technology and drug control: an analysis of the National Controlled Products Management System. *Revista Panamericana de Salud Pública*, 44, 1-7.

FERREIRA, MBC, & Chaves, RAS (2020). Proposals to improve the national controlled products management system in Brazil: an exploratory study based on empirical evidence. *Public Management and Citizenship Notebooks*, 25(81).

FIGUEIREDO, W., Seixas, P. H., & Silva, M. A. (2019). One analysis criticism of System National in Management in Products Controlled (SNGPC) at the scope of Patient Safety in a hospital unit in the



state of Rio de Janeiro, Brazil. *Cadernos Brasileiros de Saúde Mental/ Brazilian Journal of Mental Health*, 11(30), 227-243.

GOMES, J., & Soares, L. (2016). The gaps in the National Controlled Products Management System: an exploratory study. *Brazilian Journal of Pharmacy*, 97(1), 45-52.

GOMES, RM, Santos-Pinto CDB, Costa NR, Osorio-de-Castro CGS (2020). Who supervises O what? One analysis of Skills It is assignments on surveillance sanitary in medicines at the Brazil. *Science & Health Collective*; 25(3):1121- 1134.

LIME, F., Santos, J., & Coast, T. (2021). Improvements at the System National of Controlled Products Management: a systematic review. *Revista Gestão em Saúde*, 12(1), 10-19.

OLIVEIRA, MA, & Nascimento Jr., JM (2017). Risks associated with illegal circulation of controlled medicines in Brazil: a systematic review of the literature. *Ciência & Saúde Coletiva*, 22(8), 2613-2624.

OLIVEIRA, R., Santos, L., & Silva, P. (2018). Challenges It is perspectives for the implementation of the National Controlled Products Management System in Brazil. *Brazilian Journal of Pharmaceutical Sciences*, 54(3), e01703.

RIBEIRO, L., Ships, J. O. S., Álvares, J., & Silver, L. D. (2016). A Implementation of System National in Management in Products Controlled: a study on obstacles to the management of pharmaceutical assistance. *Ciência & Saúde Coletiva*, 21(5), 1499-1510.

SANCHES, C., & Ferreira, C. (2018). The control of controlled medicines in Brazil: an analysis of the National Controlled Products Management System. *Cadernos de Saúde Pública*, 34(10), e00137217.

SANTOS, AP, et al. (2019). Challenges in medication control in Brazil: a literature review. *Cadernos Saúde Coletiva*, 27(3), 324-331.

SANTOS, G., Silva, A., & Rocha, K. (2019). Pharmaceutical chain management and the National Controlled Products Management System: a case study. *Brazilian Journal of Pharmacy*, 100(1), 33-40.

SILVA, AS, et al. (2018). The National Controlled Products Management System and its inefficiencies: a critical analysis. *Revista de Saúde Pública*, 52, 1-8.



SILVA, N., & Souza, M. (2020). O SNGPC It is The training of the professionals in pharmaceutical chain management: an integrative review. Magazine Health in Focus, 8(2), 20-28.

WORLD HEALTH ORGANIZATION. (2019). Medication without harm: WHO's Third Global Patient Safety Challenge. Geneva: World Health Organization.

