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INDICATORS OF THE USE OF MEDICATION AND MEDICAL ASSISTANCE IN A TOWN AT THE WEST OF PARANÁ

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ABSTRACT
The research aimed to analyze the therapeutic practical of medical doctors (general practitioner and pediatrician) and the quality of pharmaceutical care in a health care facility from a Western Paraná county. Data were collected from medical prescriptions, by direct observation and through interviews with users. Regarding care indicators, the average time of the consultations was 6.13 minutes and the time of meds dispensation was 1.66 minutes. With regard to the prescribing indicators, 15.50% of the prescriptions were injectable drugs, while 71.50% were antibiotics prescriptions. The average number of drugs per prescription was 3.01; 92.88% of the prescribed drugs belonged to The Municipal Essential Medicines and 90.19% were delivered at the facility itself. With the exception of the two last data described above, the others are below the recommended nationally and internationally. It was suggested to carry out a continuing education program and also the continuity of the research with a qualitative approach.

Keywords: Pharmaceutical care. Pharmaceutical care. Drug Prescriptions. World Health Organization.

INTRODUCTION

At medicalized societies in the West, medication play substantial role in the approach of the health-disease compound, being almost impossible to think the health practice or health professional/user/service relationship in the absence of this supply. The model of curative and market oriented care raises the consumption of medications and the cost of health care, being almost impossible to be universalized in national systems, as well as causing iatrogenic complications that increase the incidence of morbidity and mortality. The leading causes of preventable morbidity related to medication use, are due to inappropriate prescriptions, adverse reactions, lack of adequate pharmacotherapy, not following signs and symptoms and/or errors in medication, which can be reduced with good pharmaceutical assistance[1,2], hence the growing concern of institutions and health services over the consumption of medications, rationalizing the use of medication is one of the biggest challenges to manage, especially in primary health care (APS)[3,4].

Studies[5,6] in this field seek to provide subsidies for the implementation of actions and strategies which aims the rational use of medication, ensuring safety, efficiency and quality of services. To increase security and reduce the risks of the Unified Health System (SUS) users, in 2013, Ordinance number 529 which established the National Program for Patient Safety (PNSP)[7] in order to qualify care in all health care facilities in the country.

According to the World Health Organization (WHO)[8], the rational use of medication is the situation in which patients receive the appropriate medication according to their clinical needs, in the right dose, for the appropriate period of time and at the lowest possible cost for them and for society. Thus, the factors related to the rational use of medication involve the proper prescription, timely availability, effective, safe and quality medication, affordable prices, dispensation in adequate conditions and consumption in the doses and the recommended time period[9]. To ensure the rational use it is necessary that these factors are articulated in a care network and pharmaceutical quality services, besides minimizing other aspects that may influence prescribers in the therapeutic adopted procedure.

The standardization of medications is an aspect to be considered in this process. In Brazil, with the creation of the Central of Medications (CEME) in 1971, began the first actions to

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ensure a list of medications considered essential, that is, those that satisfy the priority in health needs of the population, selected based on criteria of effectiveness, safety, convenience, quality and favourable cost. They should be accessible to all sector of society and contribute to the rational use[10]. But only in 1998, the National Medication Policy (PNM)[9] was published; in 2003, the National Conference was held Medicines and Pharmaceutical Services (CNMAF) and; in 2004, was promulgated the National Pharmaceutical Assistance Policy (PNAF) through Resolution# 338[11].

The PNM is part of the National Health Policy (PNS), constituting a key element in the effective implementation of actions that promote the improvement of health conditions of the population. According to this policy the managers of SUS in the three spheres of government, must act jointly and in accordance with established guidelines, such as the adoption of essential medication lists, sanitary regulation of medication, reorganization of pharmaceutical services, promoting rational use of medication, scientific and technological development, promotion of medication production, and development and training of human resources to work in this field[11].

To ensure essential medication it was instituted the National List of Essential Medications (RENAME), which understands the selection and standardization of medications used in the Unified Health System (SUS), aimed at reducing costs and providing better service to the population.

Decree 7508, of June 2011, as part of health care, sets the parameters for the RENAME which should be accompanied by the National Therapeutic Form (FNT) tool to support prescribing, dispensing and use of medications under the SUS[12]. From the periodic update, the RENAME constitutes a facilitator of rational use of medicines and organization of pharmaceutical services in local, state and national level.

Pharmaceutical care is an integrant part of the PNS, it involves a set of actions, aimed at the promotion, protection and health recovery, both individual and collective, and the medication as primary feedstock. It consists of a set of activities related to medication, to support health actions, demanded by a community[13]. It involves medication access in all its stages, such as conservation and quality control, safety and therapeutic effectiveness of medications, monitoring and evaluation of the use, obtainment and dissemination of information on medications and the continuing education of health professionals, user and community to ensure the rational use of medications[9].

In the pharmaceutical field, focused on the user, is a strategy which aims to enhance the quality of use of medications, understanding the provision responsible of pharmacotherapy, aiming to reach results to improve the quality of life of patients and to reduce problems related to pharmacotherapy[14]. The practice of pharmaceutical care is not limited to medications management, being the dispensing a compound a professional practice, in which the pharmacist interact with the user to meet their necessities related to the use of medications, through actions of education in health, pharmaceutical guidance, dispensation, pharmaceutical care, monitoring/tracking pharmacotherapy and systematic record of the activities[15]. The difficulty in understanding the therapy prescribed by the user, implies frequent returns to clinics and health centers, conducting new tests, worsening of the situation and possible sequels.

Worldwide, more than half of medications are prescribed, dispensed or sold inappropriately. Study[16] reveals that 50% of users do not take their medications properly and about a third of the world's population does not have access to the essential medications to meet their health needs. In Brazil, about one-third of hospitalizations are due to the incorrect use of medications, 27% of acute poisoning from medication source and 16 % of cases of poisoning deaths are caused by medications.

Although the actions related to the selection of medications, choice of proper treatment and monitoring use of the products should be developed in an interdisciplinary and multi-way[17], as recommended by the PNM[9], it is important to consider the role of the prescriber in the rational use of medications. Prescription may interfere with the rational use, and must be clear, legible, rational and executable, reflecting the outcome of clinical reasoning, developed by the prescriber facing the user´s problem. It allows to

assess aspects of care quality, optimizing the clinical outcomes and the available funds[7].

It is known that, in the moment of prescribing, the professional suffers influences that may affect the quality and quantity of medication consumption, among them, the conception of the health-disease, the type of training, sociocultural and economic conditions of the assisted population, the availability of medication in the service in which it operates, the sources of information you have access and the harassment of the pharmaceutical industry, in addition to the pressure exerted by the user[18]. The analysis of the prescriptions and assistance, including the dispensing, constitute important tools to identify problems related to the medication use in the APS.

According to PNM[9], the dispensation is one of the activities of pharmaceutical services, being private of the pharmacist. It is defined as the act of providing one or more medications to a patient, usually in response to the presentation of a prescription prepared by an authorized professional. Hereby the pharmacist must inform and guide the user on the proper use of the medication. It is an opportunity that the professional has to contribute to the use of rational use of medication, because the interaction with the user can identify their needs and inform about the medication and do education in health, acting as an agent of change in the care system.

Therefore, it is important to establish trust relationships between professionals and users with personalization of care, humanization of care and the right to information, key strategy for improving the quality of health services. In Brazil, the great difficulty to install a good dispensing service is the absence of the Pharmacist in professional health facilities, especially in basic health units. The hiring of the pharmacist is an investment that qualifies the pharmaceutical assistance programs and can reduce costs to the health system[20].

The growing concern in promoting the rational use of medication led WHO in 1993 to propose a set of indicators of medication use, to identify the profile of prescription and aspects of quality of health services in PNS[21]. The proposed indicators are divided into three groups: prescribing indicators, the patient care indicators and indicators on the service.

The first group - prescription indicators - includes five aspects: (1) Average number of medication per consultation; (2) Percentage of prescribed medication by generic name; (3) Percentage of consultations with an antibiotic prescription; (4) Percentage of consultation with prescription of an injectable medication and (5) Percentage of medications prescribed included in the essential medication list. The second group - indicators of patient care - refers to the direct relationship between aspects of the service and the user´s, and covers five aspects: (1) Average time of consultation; (2) Average time of dispensing medication; (3) Percentage of medications actually dispensed; (4) Percentage of patients who know the correct dose and; (5) Percentage of properly labelled medication. Service indicators refer to the organization and management of services, and comprise: (1) The availability of copies of the essential medications list and (2) availability of essential medications.

This study aimed to analyse the therapeutic medical practice (general practitioner and paediatrician) and the quality of pharmaceutical care in a health care facility from a town in Western Paraná. For this, it was used the indicators proposed by the WHO.

MATERIALS AND METHODS

This study was conducted at the Health Center of a small city, located in Western Paraná, with an assistance network consisted of four health units, one central and three belonging to districts, plus a 24 hours Emergency Department. The management of medications is performed by a pharmacist, and the dispensing performed by pharmacy assistant, nursing assistant and eventually by a pharmacist. There is in the city the Municipal Register of Medication Products (REMUNE), revised periodically by the responsible pharmacist, based on RENAME and municipal policy on drugs.

Cross-sectional study, which employed the WHO as the indicators for using medication, cited above. The data to determine the prescribing indicators were obtained on

duplicates of 200 medical prescriptions, issued from January to December 2009, 100 medical professionals being general practitioners and 100 in pediatric practice. According to the methodology of the WHO[21], when assessing a single health service, analysis should be at least 100 prescriptions. The prescriptions were obtained randomly in accordance with the number of prescriptions issued for each of the 12 months. These same requirements were used to calculate the medications actually dispensed, being considered as medication dispensed when in the prescription, had the standard stamp for Basic Health Unit or notes that would configure the outlet of the prescribed drug.

To assess the indicators of care were followed 200 consultation during the month of November 2009, 10 per day (five general practitioners and five pediatric clinics). Following the recommendations of the WHO[21], the five intermediate consultations were observed among 16 held each day by each professional. The average consultation time was obtained using a stop watch, by noting in minutes the time that user spent in the consultation, being calculated as the sum of all times of the observed consultations, divided by the total number of observations.

To calculate the average time of dispensation were followed 200 service users at the time of dispensing, 10 per day, five in the morning and five in the afternoon, during the month of December 2009. The collection of average dispensing time was done with a stopwatch, by noting the time in seconds, considering the dialogue between the employee and the user, not being considered the time spent with issues not related to medication. For the calculation of the average time, the sum of all the dispensing time period was used, divided by the total number of observations.

To evaluate the percentage of correctly identified medications and to know the correct dose, were interviewed 100 users, approached right after leaving the health facility pharmacy, randomly, in November and December 2009. For the record it was used an instrument adapted from WHO[21] containing user´s identification data, questions on knowledge about the right dose and the right time, and a space to record observations about the information written on the wrap of medication. It was not assessed knowledge about medications included in the prescription that were not provided by the service.

The project was approved by the Research Ethics Committee at the State University of Western Paraná (Unioeste), Report# 415/CEP - 2009 and during its development all the rules for research involving human subjects were followed.

RESULTS AND DISCUSSION

Prescribing indicators

Regarding the prescribing indicators, it was calculated the average number of medications, the percentage of prescriptions with antibiotics and the percentage of prescriptions that contained injectable medication. According to WHO[21], therapeutic records can be used to analyze the prescription acts, copies of prescriptions kept at the facility or the medical records of patients with medical notes.

As shown in table 01, the average number of medication per prescription was 3.16, being higher in pediatrics (3.31) than in general (3.01). The WHO[21] recommends 2.0 medications or less per consultation. In 2005 study by the Pan American Health Organization (PAHO)[22], which aimed to evaluate the pharmaceutical care in Brazil, the national average was 2.3 medications per consultation. Other national studies have found an average of 2.6; 1.87; 2.3 and 1.5 drugs per consultation [23-26].

Regarding the prescription by generic name, according to the data in table 01, 77.85% of the medications were prescribed in this way, higher than observed by Naves and Silver[25] who found 73.2%, Marcondes[23] who observed 71.0% and well above Santos and Nitrini[18] who found that only 30.6% of prescriptions with the generic name. However, it is below of the observed by PAHO[22] and the study by Farias et al.[26], both 84.2%.

In public sector the prescription must necessarily be done with the generic name[27], using the Brazilian Common Denomination (DCB) or the International Nonproprietary Name (INN). It is believed that certain factors affect the prescription by brand name or trade name, for example, the various arrangements of

presentations for the same active ingredient and the fact that the pharmaceutical industry does a strong marketing for increasing consumption, as well as existence in the Brazilian pharmaceutical market of medications with a high number of associations[9,18].

Table 1. Prescription indicators according to medical specialty (general practice and pediatrics).

Indicators	**Prescriptions**		
	General practice	**Pediatrics**	**Average**
Medications per prescription (average) Generic	3,01	3,31	3,16
denomination prescription (in %)	68,11	86,71	77,85
Antibiotic prescription (in %)	65,00	78,00	71,50
Injectable prescription (in %)	30,00	1,00	15,50
Prescription by REMUME (in %)	91,36	94,26	92,88

Source: Research data.

According to the WHO[21], the prescription with the generic name favors education and information, since the patient in the absence of the generic name, can make confusion, leading to difficulties in identification of the medication as well as purchasing more expensive drugs even when there are cheaper options.

In the present study, 92.88% of prescribed medications followed the Municipal Register of Essential Medicines (REMUME) (Table 01). A good amount, higher than the results of several studies[26,22,25,18,24], which was found, respectively, 91.9%, 87.0%, 85.3%, 83.4% and 82,4%, including the study of Pharmaceutical Care Evaluation in Brazil, which was 78.3 %[22].

The success of this indicator can be attributed to two out of three service indicators of pharmaceutical care: the availability of copies of REMUME in offices, and the availability of essential medication on the network that in the case of this research, was 90.19 % of prescribed medications.

Also regarding the prescription of antibiotics, 71.50% of prescriptions had at least one antibiotic (Table 01), well above the recommended by WHO of 20% and by the International Network for the Rational Use of Drug (INRUD)[8], which indicates as acceptable for antibiotic prescriptions percentages between 20 % and 30%. The rate found was also higher in comparison to other studies[23,25,18,24], that found 33.0%, 26.4%, 21.3% and 12.5%, respectively. Besides being higher than in national study, conducted by PAHO[22], of 40.1%.

Regarding injectable medications, the value of 15.5% found (Table 1) is also higher than in other studies that found 13.0%, 13.0%, 8.1%, 7.5%[18,23,24,25]. This route of administration, although it is important in situations such as emergency therapy, or absorption of the substance in its active form, can also cause serious consequences if the medication is wrongly prescribed or injected. Situations such as anaphylactic reactions, tissue necrosis or infections by aseptic deficiency should be carefully evaluated. This rout is still subject to cultural characteristics of society, considering the attitude of the population about it and how much it can influence in prescribing patterns[18].

By comparison, regarding the average of medication by prescription and prescription medications from REMUME, the study revealed great differences between the general practitioner and pediatric clinic with the average of 3.01 and 3.31 medication per prescription and 91.36% and 94.26% of prescribed medications from REMUME.

The biggest difference between the medical and pediatric clinic is in the prescription of antibiotics and injectable medication. In 78% of pediatric clinic prescriptions had at least one antibiotic prescribed, whereas this value, for the general practice was 65%, emphasizing that both numbers are well above the 20% recommended by WHO. On the other hand, the prescriptions issued by the pediatric clinic, in only 1% of them there was injectable medication, whereas in the prescriptions issued by general practitioners 30% of them had injectable medication prescribed, far above the 10% recommended by WHO and far above the results of the Brazilian pharmaceutical care evaluation[22], whose value was 7.9%.

As for prescription of medications with generic name, although the pediatric clinic presents a higher value (86.71%) compared to the medical clinic (68.11%), both are lagging behind.

Care indicators

The Ministry of Health suggests a minimum of 15 minutes to properly conduct a consultation. This is the time frame used in health units in the city under study, to set the daily schedule of consultations. Santos and Nitrini[18] using this parameter, classified the consultation times between 11.4 and 15.0 minutes as excellent, from 7.6 to 11.3 minutes good, 3.8 to 7.5 minutes regular ad time from 0.1 to 3.7 minutes, considered bad.

Among the care indicators, the average found in this study, in the 200 timed consultations, was 6.18 minutes, with mean of 5.86 minutes in general practice and 6.50 minutes in the pediatric clinic. This time is well below the 15 minutes recommended and is classified as regular by the adopted parameter[18]. It is worth to emphasize that the act of prescribing is part of the medical consultation, to be followed by information and education, in addition to the monitoring of treatment.

As for dispensation, the average time was 99.7 seconds (1.66 minutes), ranging from 20 seconds to 268 seconds (4.46 minutes). Regarding this indicator OMS[3] recommends that pharmacists spend with orientation, at least three minutes per patient (180 seconds), so the time found 99.7 seconds is half the recommended time. A study carried out in Fortaleza[14] found an average of 17 seconds and Ribeirão Preto[18] the average was 18.4 seconds on the dispensation.

The little time spent on dispensing makes it difficult to give out the necessary information about compliance to strength, influence of food, interaction with other medications, recognition of potential adverse reactions and storage conditions of products[18].

Regarding the percentage of medications provided by the service, it was found 90.19%, being 88.70% for prescriptions made by general practitioners and 91.54% by pediatric. Considering that 92.88% of existing medications in the pharmacy are inserted into the REMUME, it follows that some medications not provided are not standardized by the municipality.

To evaluate the user's knowledge about the correct dose of medication, it was used a classification that considers excellent for values between 76% and 100%, good for 51% to 75%, fair in 26% to 50% and bad for 0, 1% to 25%[9]. This classification considers the patient knows the correct dose of medication when responding negatively to four questions (Table 02). Two questions are about the correct time and use of medication and two concerning the correct amount of medication for a established period.

Table 2. Knowledge of users on the correct use of the medication.

Questions to users	**Yes**	**No**
	%	**%**
1-Taking a medication from 8 to 8 hours means 3 times daily and can it be considered in the morning, at noon and at night or after meals?	43	57
2-If I should take 4 pills a day, the time does not matter as long as 4 pills are taken until the end of the day?	06	94
3-Taking 3 pills a day is the same as taking two pills in the morning and one at night?	14	86
4-If respecting the correct time of medication the amount of pills I have to take 1 or 2 does not interfere on the treatment?	05	95

Source: Research data.

It was observed that users have greater knowledge about the right amount and less on the correct time, or understand how many pills they should take a day, but do not obey the correct time, due to the lack of knowledge or simply to the lack of information.

Based on the results of the constant questions on the table 02, it was calculated the percentage of users who actually know the correct dose, that is, knows the time and the correct amount of prescribed medication. It was found that 83% of users know the correct amount that should be taken and only 57% know the correct

time of taking the medications. However, only 55% of users know the correct dose, that is, know the correct time and the correct amount of medication. Although this rate is considered good, according to the criteria proposed by Santos and Nitrini[18], the ideal is that all users know the correct dose of prescribed medication.

Finally, to assess whether the drugs were correctly labeled, it was used the classification considered excellent for values between 76% and 100%, good from 51% to 75%, fair from 26% to 50% and bad from 0.1% 10 to 25%. In the study it was observed that 92% of drugs were correctly labeled with dosage and using method.

CONCLUSIONS

The survey revealed that, in most indicators, the results are similar to other national studies, however, regarding the percentage of prescriptions with an injectable medication or prescriptions with antibiotic, the data is much higher than recommended and found in studies that used the same evaluation indicators.

This shows the need for targeted actions aiming at the rational use of medications and reducing the overuse of antibiotics, because besides generating unnecessary expenses, it may cause hypersensitivity reactions, being the main problem the development of potentially resistant microorganisms. Furthermore, it may in future, demand more powerful medications, and probably more expenses for the treatment of infections caused by these microorganisms, besides causing consequences for patients.

With regard to prescribing indicators, the average time prescribing and dispensing, featured a short time, which can result in misuse of prescribed and dispensed medications at the facility object of study.

The adoption of a standardized list of medication proved to be an effective tool to promote rational use of medications and should be part of the management of municipal health policy. The use of standard drugs improves the cost-effectiveness of prescription. The low rate found regarding the attention of users about the correct dose (55%), may be a result of not using enough time for the dispensation.

Front of the reality found, it suggests the creation of a continuing education program in health to prescribers and workers involved in dispensing medications, aiming at rational prescribing, as well as better quality in pharmaceutical care provided to users.

As a final consideration, it is suggested, yet, the development of qualitative research with the health service professionals, especially with prescribers to better assess the factors that may be influencing the non-rational use of medications.

INDICADORES DO USO DE MEDICAMENTOS E DE ASSISTÊNCIA EM UM MUNICÍPIO DO OESTE DO PARANÁ

RESUMO

A pesquisa objetivou analisar a prática terapêutica de médicos (clínico geral e pediatra) e a qualidade da assistência farmacêutica em uma unidade de saúde de um município do Oeste do Paraná. Os dados foram coletados em prescrições médicas, em observação direta e por meio de entrevistas realizadas com usuários. Quanto aos indicadores de assistência, o tempo médio das consultas foi de 6,13 minutos e o de dispensação 1,66 minutos. No que se refere aos indicadores de prescrição, em 15,50% das receitas havia medicamento injetável prescrito; em 71,50% prescrição de antibióticos; a média de medicamentos por receita foi de 3,01; 92,88% dos medicamentos prescritos pertenciam a Relação Municipal de Medicamentos Essenciais e 90,19% foram dispensados no próprio serviço. Com exceção dos dois últimos dados, os demais são inferiores ao recomendado nacional e internacionalmente. Indicou-se a realização de programa de educação permanente e continuidade da pesquisa com abordagem qualitativa junto aos prescritores.

Palavras-chave: Atenção farmacêutica. Assistência farmacêutica. Prescrição de medicamentos. Organização Mundial da Saúde.

INDICADORES DE USO DE MEDICAMENTOS Y DE ATENCIÓN EN MUNICIPIO DEL OESTE DE PARANÁ

RESUMEN

La investigación tuvo como objetivo examinar la práctica terapéutica médica (general y pediatra) y la calidad de la atención farmacéutica en un centro de atención de la salud de un municipio del Oeste de Paraná. Los datos fueron recogidos en prescripciones médicas; en observación directa y por medio de entrevistas realizadas con

usuarios. En cuanto a los indicadores de atención, el tiempo promedio de las consultas fue de 6,13 minutos y de 1,66 minutos para dispensación. Con respecto a los indicadores de prescripción, en 15,50 % de las recetas médicas se les prescribió medicación inyectable; 71,50 % prescripción de antibióticos; el promedio de medicamentos por receta fue de 3,01; 92.88 % de los medicamentos recetados pertenecía a la Lista Municipal de Medicamentos Esenciales y 90,19% fueron entregados en el propio servicio. Con la excepción de los dos últimos datos, los demás están por debajo de la recomendación nacional e internacional. Fue indicada la realización de un programa de educación permanente y la continuidad de la investigación con abordaje cualitativo junto a los prescriptores.

Palabras clave: Atención farmacéutica. Servicios farmacéuticos. Prescripciones de medicamentos. Organización Mundial de la Salud.

REFERENCES

1. Souza TT, Godoy RR, Rotta I, Pontarolo R, Fernandez-Llimos F, Correr CJ. Morbidade e mortalidade relacionadas a medicamentos no Brasil: revisão sistemática de estudos observacionais. Rev ciênc farm básica apl. 2014; 35(4):519-532.

2. Alencar T de OS, Nascimento MAA do. Assistência Farmacêutica no Programa Saúde da Família: encontros e desencontros do processo de organização. Ciênc. saúde coletiva [online]. 2011; 16(9):3939-3949. [citado em 7 set 2015]. Disponível em: http://www.scielo.br/pdf/csc/v16n9/a31v16n9.pdf

3. Ministério da Saúde(BR). Secretaria de Ciência, Tecnologia e Insumos Estratégicos. Uso racional de medicamentos: temas selecionados. Brasília(DF): Ministério da Saúde; 2012.

4. Costa KS, Barros MBDA, Francisco PMSB, César CLG, Goldbaum M, Carandina L, et al. Utilização de medicamentos e fatores associados: um estudo de base populacional no Município de Campinas, São Paulo, Brasil. Cad saúde pública. 2011; 27(4): 649-58.

5. Ferreira MBC, Heineck I, Flores LM, Camargo AL, Dal Pizzol T da S, Torres IL da S et al. Rational use of medicines: prescribing indicators at different levels of health care. Braz. J. Pharm Sci. [online]. 2013; 49(2):329-34. [cited 2015 Sep 7]. Disponível em: http://www.scielo.br/pdf/bjps/v49n2/15.pdf

6. Medeiros EFF, Moraes CF, Karnikowski M, Nóbrega OT, Karnikowski MG de O. Intervenção interdisciplinar enquanto estratégia para o Uso Racional de Medicamentos em idosos. Ciênc saúde colet [online]. 2011 July; 16(7): 3139-49. [citado em 7 set 2015]. Disponível em: http://www.scielo.br/pdf/csc/v16n7/14.pdf.

7. Brasil. Portaria nº 529, de 1º de abril de 2013. Institui o Programa Nacional de Segurança do Paciente (PNSP). Brasília (DF); 2013.

8. World Health Organization. The rational use of drugs: report of the conference of experts. Nairobi 1985 Jul 25-29. Geneva: WHO; 1987.

9. Ministério da Saúde (BR). Portaria GM nº 3916 de 30 de outubro de 1998. Aprova a política nacional de medicamentos. Diário Oficial da União, Brasília (DF), 10 nov. 1998. Seção 1. p. 18-22.

10. Marin N, Luiza VL, Osório-de-Castro CGS, Machado-dos-Santos S, editores. Assistência farmacêutica para gerentes municipais. Rio de Janeiro: Organização Pan-Americana de Saúde; 2003.

11. Ministério da Saúde (BR). Resolução CNS nº 338, de 6 de maio de 2004. Aprovada a Política Nacional de Assistência Farmacêutica. Diário Oficial da União, Brasília, DF, Poder Executivo, 20 maio 2004.

12. Brasil. Decreto 7508 de 28 de jun. de 2011. Regulamenta a Lei nº 8.080, de 19 de setembro de 1990, para dispor sobre a organização do Sistema Único de Saúde - SUS, o planejamento da saúde, a assistência à saúde e a articulação interfederativa, e dá outras providências. Brasília (DF); 2011.

13. Organización Mundial de Salud. Organización Panamericana de Salud. El papel del farmacéutico en el Sistema de Atención de Salud: (OPS/HSS/HSE/95.01). Tokio: OMS; 1993.

14. Oliveira KR de, Paula M. Uso racional de antibióticos: responsabilidade de prescritores, usuários e dispensadores. Rev Contexto & Saúde. 2013; 9(18):43-51.

15. Alano GM, Corrêa TS, Galato D. Indicadores do Serviço de Atenção Farmacêutica (SAF) da Universidade do Sul de Santa Catarina. Ciênc saúde colet. 2012; 17(3):757-64.

16. Aquino DS. Por que o uso racional de medicamentos deve ser uma prioridade? Ciênc saúde colet. 2008; 13 Supl:733-6.

17. Leite SN, Benedito CC. A interdisciplinaridade na promoção do uso racional de medicamentos. Ciência cuid saúde. 2009; 7(3):399-403.

18. Santos V, Nitrini SM. Prescription and patient-care indicators in health care services. Rev Saúde Pública. 2004; 38:819-26.

19. Oenning D, Bruna VO, Carine RB. Conhecimento dos pacientes sobre os medicamentos prescritos após consulta médica e dispensação. Ciência saúde colet. 2011; 16 (7):3277-83.

20. Arrais PSD, Barreto ML, Coelho HLL. Drug prescription and dispensing from the patient's perspective: a community-based study in Fortaleza, Ceará State, Brazil. Cad Saúde Pública. 2007; 23:927-37.

21. Organización Mundial de la Salud. Como investigar el uso de medicamentos en los servicios de salud. Indicadores selecionados del uso de medicamentos. Ginebra: OMS; 1993.

22. Ministério da Saúde(BR). Organização Panamericana de Saúde. Avaliação da assistência Farmacêutica no Brasil.

Brasília (DF): Organização Pan-Americana da Saúde: Ministério da Saúde; 2005.

23. Marcondes NSP. A assistência farmacêutica básica e o uso de medicamentos na zona urbana do município de Ponta Grossa, Paraná: um estudo de caso. Rio de Janeiro: Fiocruz/ENSP; 2002.

24. Colombo D, Helena ETS, Agostinho ACMG, Didjurgett JSMA. Padrão de prescrição de medicamentos nas Unidades de Programa Saúde da Família de Blumenau. Rev Bras Cien Farm. 2004; 40: 549-58.

25. Naves JOS, Silver LD. Evaluation of pharmaceutical assistance public primary care in Brasília, Brazil. Rev Saúde Pública. 2005; 39:223-30.

26. Farias ADS, Cardoso MAA, Medeiros ACD, Belém LF, Simões MOS. Prescription indicators in Family Health basic units of the municipal ldistrict of Campina Grande, PB. Rev Bras Epidemiol. 2007; 10:149-56.

27. Agência Nacional de Vigilância Sanitária(BR). Prescrição e dispensação de medicamentos genéricos e similares destaques da legislação vigente. Brasília (DF); 2013.

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