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Implant and structuring of the clinical pharmacy service in a psychiatric hospital of the public health system

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Abstract

Objective: To analyze the results of the Implant process of the Clinical Pharmacy in a psychiatric hospital. **Methods:** A retrospective experience report of clinical pharmacy services implant in a psychiatric hospital in the public health network of the Federal District from August 2018 to March 2019. A descriptive analysis of the data recorded in indicator spreadsheets of activities clinical pharmacy in the hospital was performed. **Results:** The mean age of patients was 34.0 (±11.6) years and 87 (63.0%) were female. The main problems types in pharmacotherapy identified were quantitative ineffectiveness (34.8%), non-quantitative insecurity (32.6%) and non-quantitative ineffectiveness (12.3%). The main interventions performed were change in dosage/administration times (26.8%), recommendation for non-laboratory monitoring (20.3%) and other signs and alerts (10.1%). Among the 138 interventions registered in the clinical pharmacy service implanted, 130 (94.2%) were accepted. When we compared the accepted interventions with those that were not accepted, we found that there was a statistically significant difference for types of interventions performed(p=0.05) and a non-significant difference for the patient's gender (p=0.710), pharmacotherapy involved (p=0.800), problems related to medication (p=0.289) and the period in which the interventions were made (p=0.850). **Conclusion:** the study demonstrated that the implanted clinical pharmacy service enabled, through the acceptance of pharmaceutical interventions, a better adequacy of medical prescriptions, avoiding risks to hospitalized patients.

Keywords: clinical pharmacy; organizational innovation; pharmacists, pharmacy service, drug-related problems; pharmaceutical care; psychiatric hospital.

Implantação e estruturação do serviço de farmácia clínica em um hospital psiquiátrico da rede pública de saúde

Resumo

Objetivo: Avaliar os resultados do processo de implantação do serviço de farmácia clínica em um hospital psiquiátrico. **Método:** Relato de experiência retrospectivo da implantação de serviços de farmácia clínica em um hospital psiquiátrico da rede pública de saúde do Distrito Federal, no período de agosto de 2018 a março de 2019. Foi realizada uma análise descritiva dos dados registrados em planilhas de indicadores das atividades de farmácia clínica no hospital. **Resultados:** A média de idade dos pacientes foi de 34,0 (±11,6) anos e 87 (63,0%) eram do sexo feminino. Os principais tipos de problemas na farmacoterapia identificados foram a inefetividade quantitativa (34,8%), insegurança não quantitativa (32,6%) e inefetividade não quantitativa (12,3%). As principais intervenções realizadas foram alteração de posologia/horários de administração (26,8%), recomendação de monitoramento não laboratorial (20,3%) e outras sinalizações e alertas (10,1%). Dentre as 138 intervenções registradas no serviço de farmácia clínica implantado, 130 (94,2%) foram aceitas. Quando comparamos as intervenções aceitas com as que não foram aceitas, identificamos que houve diferença estatisticamente significativa para os tipos de intervenções realizadas (p=0,05) e não significativa para sexo dos pacientes (p=0,710), farmacoterapia envolvida (p=0,800), problemas relacionados a medicamentos (p=0,289) e quanto ao período em que as intervenções foram feitas (p=0,850). **Conclusões:** o estudo demonstrou que a implantação do serviço de farmácia clínica possibilitou, através das intervenções farmacêuticas aceitas, uma melhor adequação das prescrições médicas, evitando riscos aos pacientes internados.

Palavras-chave: farmácia clínica; inovação organizacional; farmacêuticos; serviços farmacêuticos; problemas relacionados com medicamentos; assistência farmacêutica; hospital psiquiátrico.

Introduction

Clinical Pharmacy is a pharmacy area inserted in the context of pharmaceutical care, in which the role of the clinical pharmacist is mainly characterized by greater interaction with the patient and with the multidisciplinary team, in order to achieve better health outcomes, pharmacotherapy results and quality of life during treatment. Participation of the pharmacist in the meetings to discuss clinical cases of hospitalized patients guarantees the team diverse information about the pharmacotherapy and allows for the pharmaceutical evaluation of medical prescriptions, in addition to assisting the physician in maintaining the treatment during hospitalization and after hospital discharge.[1]

The pharmacist's clinical activity was born in the 1960s in the United States of America and in the United Kingdom with the intention of rationalizing drug therapy. The practice contributes to greater safety in the pharmacotherapy treatment by having as its main purposes the mitigation of errors in the medication process and the monitoring of possible adverse drug reactions. When acting in Clinical Pharmacy, pharmacists provide care to the patients, optimizing pharmacotherapy and promoting their health. In addition to the positive impact on patient care, the interventions conducted by clinical pharmacists can generate significant savings in financial resources for the health institutions.[2-5]

Some studies conducted in mental health have shown the relevance of the Clinical Pharmacy services for the health outcomes of patients with mental disorders and for the reduction of treatment costs.[6,7] A number of studies carried out in North American psychiatric hospitals showed that 70.1% of the pharmaceutical interventions conducted were accepted by the medical team and that, of these, 24.6% involved antipsychotics.[6] A descriptive analysis of the data performed in another study showed that a clinical pharmacist performing consultations in a psychiatric hospital exerts an impact on the patients' outcomes, such as discharge time and resolution of the psychiatric symptoms.[7]

The implementation of Clinical Pharmacy services in psychiatric institutions helps to prevent drug-related problems and to reduce costs in relation to medications. A quantitative and economic evaluation study carried out in a psychiatric hospital in the United States showed a 92.5% acceptance rate of the interventions, resulting in a significant cost reduction for the institution.[8] In a study carried out at a Psychosocial Care Center (*Centro de Atenção Psicossocial*, CAPS), in Rio de Janeiro, it was shown that 71.0% of the patients had their negative results associated with medications resolved and that the pharmaceutical clinical practices in mental health effectively contributed to the promotion of the rational use of medications, increasing patients' adherence to the treatment. Pharmacotherapy follow-up of patients by the pharmacist allows monitoring the clinical evolution and providing guidance on the use of the medications, enabling early identification of the occurrence of adverse effects, intolerance and drug interactions that are important causes for treatment abandonment.[9]

According to the World Health Organization, among the severe mental disorders, bipolar affective disorder affects 45 million people worldwide and schizophrenia, nearly 20 million[10]. These individuals need hospital care in the acute phase of the disease and full follow-up after discharge to improve prognosis and reduce the risk of new hospitalizations. Unlike the asylum model of yesteryear, psychiatric hospitalization has as its main objective to stabilize the patients, mitigating the risks they may present to themselves and to others, in addition to promoting their reintegration into their social environment.[11]

Antipsychotics are of great benefit for the treatment of severe mental disorders, but they have a pattern of adverse effects that includes extrapyramidal symptoms (dystonia, dyskinesia, hypertonia, akinesia and akathisia), sedation, metabolic syndrome (insulin resistance, dyslipidemia, gain weight, hypertension) and neuroleptic malignant syndrome. These adverse effects are due to the postsynaptic blockage of the neurotransmission system receptors and can occur early on or gradually during treatment.[14] Assessment of the prescription of antipsychotics must be made according to the specific medication and to the each patient's tolerability situation. In general, the adverse effects caused by antipsychotics are dose-dependent, as well as their efficacy in the acute phase of severe mental disorders. Understanding and informing how adverse effects can be managed can increase the benefits of using antipsychotics in the treatment of severe mental disorders[15,16].

With the reorientation of the mental health care model that has taken place in recent decades, promoting deinstitutionalization, inclusion of the Clinical Pharmacy service in psychiatric hospitals is justified, as it is an important practice that can help increase efforts for the patients' community psychosocial treatment, allowing for the identification and reduction of risks associated with the antipsychotic pharmacotherapy. In this context, it is up to the hospital clinical pharmacist to guide the users, their family members and the multidisciplinary team on the rational use of medications, as well as sharing with the physician the responsibility for optimizing the drug therapy, cooperating towards brief hospitalization times.

In this sense, the objective of this study was to describe the process of implementing the Clinical Pharmacy service in a psychiatric hospital belonging to the public health network from June to August 2018 and to evaluate the initial pharmaceutical interventions carried out during the pharmacotherapy review through an analysis of prescriptions for the prevention of drug-related problems (DRPs) identified in the period from August 2018 to March 2019.

Methods

This study is a retrospective experience report of the implementation of Clinical Pharmacy services, focusing on the pharmacotherapy review, identification of DRPs and pharmaceutical interventions in a psychiatric hospital belonging to the public health network of the Federal District.

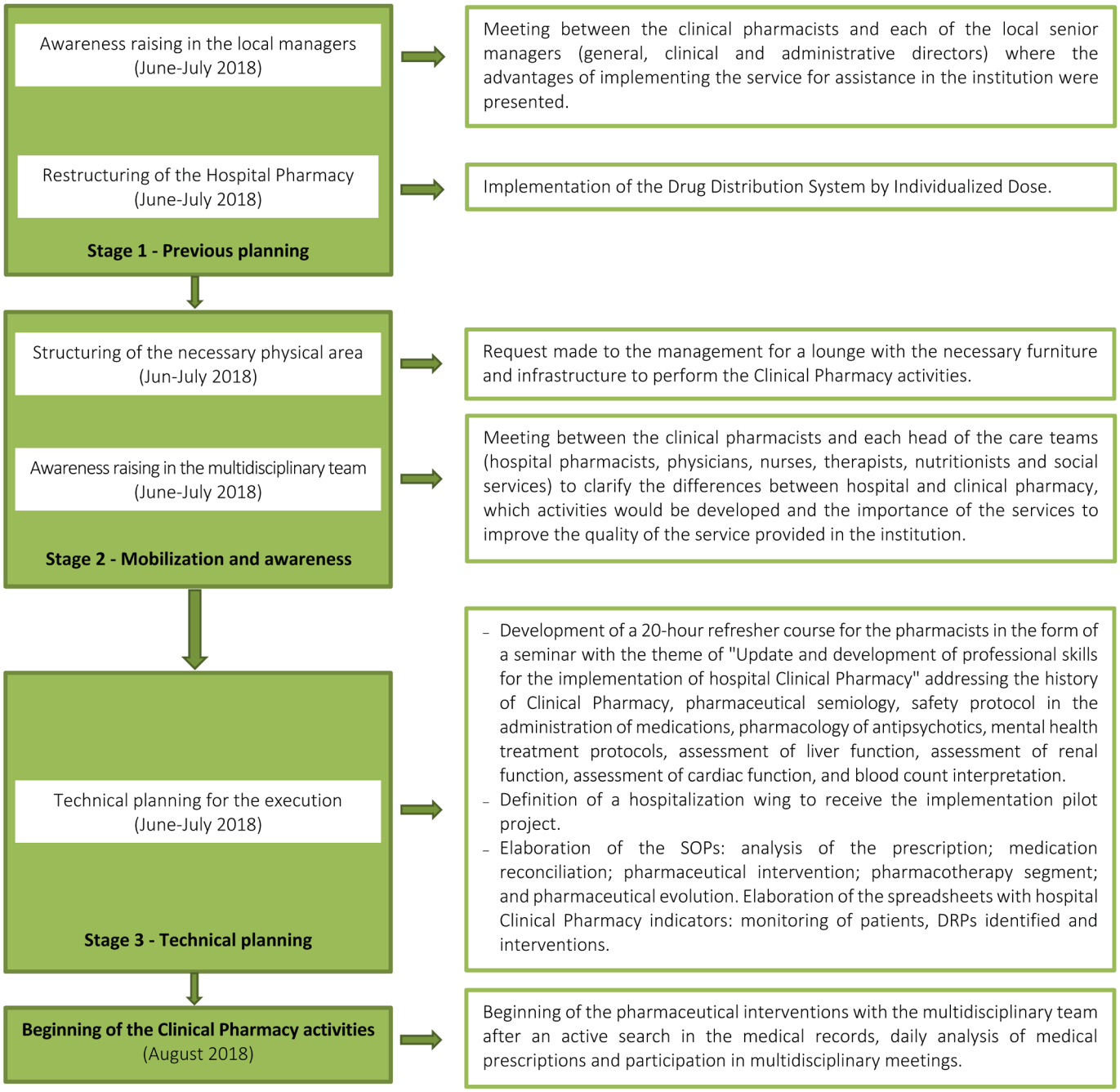
The hospital serves adult patients aged between 18 and 60 years old and with mental disorders. The institution provides a total of 83 beds, distributed in 41 beds in the emergency room, with 20 beds for men and 21 for women; and 42 beds in the inpatient wing, 21 beds for men and 21 for women. In addition to that, for being a reference service in hospitalizations related to mental health, it is frequently overcrowded beyond its capacity.

The institution has a multidisciplinary team consisting of pharmacists, psychiatrists, psychologists, physiotherapists, occupational therapists, Nursing team, nutritionists and social workers. The Pharmacy service consists of two centers: Hospital Pharmacy and Clinical Pharmacy.

The team at each of the centers consists of three pharmacists and two residents in Pharmacy from the multidisciplinary residency program in adults' mental health of the State Health Secretariat of the Federal District. The hospital pharmacy center also has the services of mid-level technicians and an adequate physical structure, including computers, software programs, sealers and furniture necessary for the development of activities.

The process to implement the Clinical Pharmacy service was conducted from June to August 2018, in three main stages (Figure 1). These stages included pre-planning; mobilization and sensitization of supervisors and various health professionals who were part of the hospital teams; and, finally, technical planning for the execution and initiation of the activities. Prior planning started with a meeting between the clinical pharmacists and each of the local managers (general, clinical and administrative directors), in which the advantages of implementing the service in the institution were presented.

Figure 1. Flowchart corresponding to the planning of the implementation process for the Clinical Pharmacy activities in a psychiatric hospital belonging to the public health care network



To enable the implementation of the Clinical Pharmacy activities, the hospital pharmacy was restructured, with the incorporation of the drug distribution system by individualized dose. The activities of the psychiatric hospital's Clinical Pharmacy, such as pharmaceutical consultations, medication reconciliation, guidance on the use of the medication to the patients, family members and caregivers at the time of adaptation to home treatment and, later, at hospital discharge, in addition to other practices carried out by the multidisciplinary team, present specificities that differ from those practiced in general hospitals. The concept of bedside assistance of Clinical Pharmacy, for example, does not apply to this context, considering that psychiatric patients are seldom linked to a bed. Consequently, the clinical practices are performed in lounges or spaces other than wards or rooms. For this reason, a room for the performance of the pharmaceutical clinical services was requested from the managers, as well as furniture and infrastructure (such as chairs, tables, cabinets and computers) necessary for the activities to be developed, ensuring the patient's privacy in the provision of services that demand individualized care.

Pre-scheduled meetings were held with each of the heads of the care teams (hospital pharmacists, physicians, nurses, therapists, nutritionists and social services) in order to clarify the differences between hospital pharmacy and clinical pharmacy, which activities would be developed and the importance of the services to improve the quality of care aimed at patient safety, rational use of medications and cost reduction for the institution. The work with the multidisciplinary team started to occur through weekly meetings to discuss clinical cases of hospitalized patients, direct contact with prescribing physicians, guidance to the Nursing team, when necessary, and therapeutic workshops held twice a week and conducted by single and multiprofessional residents. The therapeutic workshops are socialization and interaction spaces aimed at promoting the patient's social reinsertion.

Technical planning consisted in the development of a refresher course in hospital Clinical Pharmacy, with the objective of preparing and motivating the pharmacists for the new activities, in addition to standardizing the work processes. The course was conducted in the seminary format and taught by the institution's clinical pharmacists, lasting a total of 20 hours. During the seminar, whose central theme was "Update and development of professional skills for the implementation of the hospital Clinical Pharmacy", the following topics were addressed: history of Clinical Pharmacy; pharmaceutical semiology; safety protocol in drug administration; general and antipsychotic pharmacology; mental health treatment protocols; assessment of liver function; assessment of renal function; assessment of cardiac function; and blood count interpretation.

Also in the technical planning stage, the hospitalization ward for stabilized patients was defined, which historically presented longer periods of stay, in order to receive the implementation pilot project, enabling better pharmacotherapy follow-up. Initiation of the Clinical Pharmacy activities with a pilot project allowed providing opportunities for reassessments and re-adaptations during the implementation process.

During the documentary technical planning, the Standard Operating Procedures (SOPs) necessary for deliberation of the workflow and documentation of the information obtained were elaborated. Thus, SOPs were produced for the following procedures: analysis of the prescription; medication reconciliation; pharmaceutical intervention; pharmacotherapy segment and of the pharmaceutical evolution. Worksheets of indicators of the hospital Clinical Pharmacy service were also prepared, such as patient follow-up, DRPs identified and interventions performed.

Clinical pharmacists assessed the daily prescriptions through technical consultation in the Micromedex® and MEDSCAPE® databases, in addition to performing searches in the available scientific literature. Anamnesis, the assessment of biochemical parameters, the relevant drug interactions and the suggestions for courses of action or monitoring were recorded in an electronic medical chart by means of the pharmaceutical evolution. The clinical meaning of the interventions was evaluated by using Dáder's method to categorize the DRPs.[12]

For the evaluation of the DRPs identified and the interventions carried out from August 2018 to March 2019, the prescriptions of all patients admitted to the hospitalization ward and whose prescriptions were analyzed by the Clinical Pharmacy service were included in the study. The prescriptions of patients in the hospitalization ward were selected due to the fact that they are stabilized and taking oral medications, unlike those in the emergency room.

To assess resolution of the DRPs identified and the result of the interventions, the acceptance rates of prescription modifications by the medical team were evaluated. Although the DRPs identified were recorded in the patients' medical charts, the reasons for not accepting interventions were not recorded by the service. Information on acceptance of the interventions was obtained by direct telephone, written or in-person contacts with the prescribing physicians and by checking modification of the prescriptions. Subsequently, the interventions were recorded in an electronic chart by means of the pharmaceutical evolution.

For analysis, the DRPs identified were classified according to the Grenada Consensus[12] into untreated health problem, drug effect not necessary, non-quantitative ineffectiveness, quantitative ineffectiveness, non-quantitative insecurity, and quantitative insecurity. The types of pharmaceutical interventions performed were classified according to the standardized classification by the State Health Secretariat of the Federal District. For the DRP categories "untreated health problem" and "drug effect not necessary", the interventions should be mainly of the following types: medication discontinuation, substitution or addition. For the "non-quantitative ineffectiveness" and "non-quantitative insecurity" categories: guidance on scheduling; recommendation for monitoring and warning of severe interactions. And for the "quantitative ineffectiveness" and "quantitative insecurity" categories: change in dosage; change in pharmaceutical presentation; and change in concentration or dilution.

To assess the main classes of medications involved in the interventions conducted, the drugs were categorized into antipsychotics, antibiotics and other medications. Choice of this classification was due to the fact that consumption of antipsychotics is much higher than that of somatic drugs in psychiatric hospitals and because there is greater control in the prescription and dispensing of antibiotics.

Analysis of the prescriptions was selected for the study for presenting a more consolidated implementation and records of indicators allowing for the identification of DRPs and the interventions carried out.

To minimize a potential source of bias, the data were collected from the service's spreadsheets through double checking by two researchers, and divergences and incomplete information were resolved by consulting the patient's electronic medical record.

The data collected were tabulated in a Microsoft Excel® spreadsheet for descriptive analysis and, subsequently, using the R® software (version 4.0.5), Fisher's tests[13] were applied to assess the statistical significance of the estimated proportions, considering a 5% significance level.

The study was approved by the Research Ethics Committee of the UNIEURO/DF University Center, under No. 35529920.9.0000.5056.

Results

Prior planning for the implementation of the Clinical Pharmacy service allowed the multidisciplinary team and local managers to be aware of the relevance of the new care activity. Any and all doubts presented by the team in relation to the need and importance of the service for patients with mental disorders were solved in this phase. In addition to that, conquest of spaces and active voice of the pharmacists with the multidisciplinary team was also possible at this stage. The inclusion of the clinical pharmacists' activities in the hospital structure was very well received by the team, which generated constant demands from these professionals for support in the care provided to the patients, their family members and caregivers.

The Clinical Pharmacy service was launched in the hospital in August 2018. The interventions were carried out by the clinical pharmacists with the multidisciplinary team after an active search for clinical information in the medical records and daily analysis of the medical prescriptions. After identifying possible DRPs, the cases were discussed with the prescribing physicians by telephone or in person, and the change made or the new course of action, as well as adherence to the intervention, were recorded in the indicator spreadsheets of the hospital Clinical Pharmacy service.

In the period from August 2018 to March 2019, 284 prescriptions were analyzed and 138 DRPs were identified, which generated 138 interventions. The mean age of the patients was 34.0 (±11.6) years old and 87 (63.0%) were female. The main types of DRPs identified were as follows: quantitative ineffectiveness (34.8%), non-quantitative insecurity (32.6%) and non-quantitative ineffectiveness (12.3%). The antipsychotics class was the most frequently involved in the DRPs (74.6%) and 9.4% involved the antibiotics class. The main interventions performed were change in dosage/administration times (26.8%), recommendation for non-laboratory monitoring (20.3%) and other signs and warnings (10.1%). The three unclassified interventions (2.2%) did not meet the Consensus of Grenada criteria, but presented economic potential and/or good practice guidelines in the use of medications. Of the 138 interventions recorded in the Clinical Pharmacy service implemented, 130 (94.2%) were accepted. The reasons for not accepting 8 (5.8%) of the interventions performed were not recorded.

When comparing patients with accepted interventions with those whose interventions were not accepted, we identified that there was a statistically significant difference for the types of interventions proposed (p=0.05) and not significant for the patients' gender (p=0.710), pharmacotherapy involved (p=0.800), drug-related problems (p=0.289) and period of the interventions (p=0.850).

Discussion

Mental disorders are clinical conditions that are difficult to manage, in which the patients frequently present low adherence to the drug treatment. In addition to that, due to the chronicity of mental disorders, it is usual for treatments to be prolonged and to involve use of multiple drugs.[14] The pharmacist plays a key role in carrying out the pharmacotherapy monitoring of these patients, performing, among other duties, guidance of the patient and their caregivers regarding the need for adherence to the treatment, prevention and minimization of the occurrence of adverse events that psychotropic drugs can cause, in addition to monitoring the laboratory tests of the medications that need serum concentration monitoring.[17,18]

During the initial eight-month period of the Clinical Pharmacy activities, the clinical pharmacists identified potential DRPs in 138 (48.6%) of the 284 prescriptions of patients in the hospitalization wing of the psychiatric hospital. Of the total of DRPs identified, 130 (94.2%) were solved after the medical team accepted the pharmaceutical interventions.

As already described, the process of implementing the Clinical Pharmacy service requires systematic planning, with mobilization and sensitization of the different actors involved in hospital management and care. It is necessary to convince the multidisciplinary team and the managers with technical and scientific reasons for the success of the implementation process.[3]

A minimum infrastructure to carry out Clinical Pharmacy activities and the readjustment of hospital pharmacy operations were important to enable implementation. The private space conquered for the installation of the Clinical Pharmacy equipped with furniture and computers, the availability of access to the patients' electronic records and databases for technical consultations related to medications, and the implementation of the drug distribution system by individualized dose allowed launching service. It is noted that distribution of medications by individualized dose allows improving traceability of the DRPs.[2]

The most frequently found DRP in this study was related to the medication dose (34.8%), as well as in the study carried out in a Psychosocial Care Center (CAPS),[9] which was 53.0%, and also in another study conducted in the Intensive Care Units of a tertiary-level teaching hospital,[18] which was 46.7%. However, these results differ from the study also carried out in an Intensive Care Unit, where dose-related DRPs were the second most frequent problem (12.0%).[19] The result found in our study can be related to the class of medications used by patients with mental disorders, considering that psychotropic drugs have a high potential for drug interactions and adverse reactions. This result is worrisome because the effectiveness of antipsychotics, as well as many adverse effects, are dose-dependent.[15] In intensive care units, the procedures adopted are based on well-defined protocols, unlike in the Psychiatry specialty, which is heavily based on evidence from the clinical practice, due to the absence of treatment protocols. Consequently, this study shows that the clinical pharmacist's effective performance in Psychiatry is essential for interventions related to quantitative insecurity.

The rate of pharmaceutical interventions accepted by the medical team in this study (94.2%) was close to that shown in a study carried out in Italy[3], which was 93.2%. In Brazil, a study conducted in a general hospital was also successful in the same way as in our study, where 93.4% of the interventions carried out during the year in which the service was implemented were accepted, ranging up to 99.5% in the final year of the study.[20] In our study, the monthly acceptance rate in the period was above 88.0%, reaching 94.2% throughout the study period. These rates were higher than those found in studies carried out in a university hospital from Ethiopia,[21] which were 68.4% and 76.3% in Intensive Care Units.[18] The high percentage of intervention acceptance found, higher than in non-psychiatric units, reinforces the importance of the Clinical Pharmacy service also for mental health care.

Our study shows that psychotropic drugs were those most involved in the pharmaceutical interventions (74.6%), differently from the study carried out in Italy,[3] which had the antibiotics class as the most involved. In our study, involvement of the antibiotics in 9.4% of the interventions draws our attention due to the fact that there are no other medical specialties, besides Psychiatry, active in the hospital. Consequently, many treatments are conducted empirically, increasing

the need for pharmacotherapy monitoring. Our study also diverges from a survey carried out in a university hospital from Ethiopia,[21] which presents antibiotics as the second class of medications most involved in the pharmaceutical interventions, as well as in the study in the ICU of a tertiary-level hospital conducted in Curitiba.[18]

The greater involvement of antipsychotics in the pharmaceutical interventions identified in this study may indicate that the patients would be exposed to poisoning risks and adverse effects from this class of medication. Poisoning with antipsychotics depends on the dose, age and comorbidities. Among other symptoms, the patient can present reduced consciousness, tachycardia, delirium, lethargy, extrapyramidal effects such as akathisia and dystonia, mental confusion with coma and respiratory depression in more severe cases. These symptoms are a consequence of the exacerbated pharmacological action of virtually all antipsychotics that inhibit dopamine D2 receptors in the central nervous system.[22-24]

As quantitative ineffectiveness was the main DRP found in our study, we can infer that the prescribed dose of antipsychotics could, in this situation, impair the patient's clinical improvement. The high acceptance rate of the pharmaceutical interventions performed enabled mitigating the occurrence of this category of DRPs. In some studies, dosage is frequently described as a potential cause of DRPs that can be avoided through the clinical pharmacists' performance.[25]

Table 1. Distribution of the drug-related problems found in a psychiatric hospital belonging to the FD's public health care network, from 08/2018 to 03/2019 (n=138).

Information	All N=138	Interventions performed		*p*-value
		Accepted N=130	Not accepted N=8	
Sociodemographic				
Female gender[1] n (%)	87 (63.0)	81 (93.1)	6 (6.9)	0.710
Age (years old) Mean (SD)	34.0 (11.6)	-	-	-
Pharmacotherapy involved n (%)				
Antipsychotics	103 (74.6)	98 (95.1)	5 (4.9)	
Antibiotics	13 (9.4)	12 (92.3)	1 (7.7)	0.800
Other classes of medications	22 (15.9)	20 (90.9)	2(9.1)	
Problems in pharmacotherapy (DRPs)[2] n (%)				
Quantitative ineffectiveness	48 (34.8)	45 (93.8)	3 (6.2)	
Non-quantitative insecurity	45 (32.6)	41 (91.1)	4 (8.9)	
Non-quantitative ineffectiveness	17 (12.3)	17 (100.0)	-	
Quantitative insecurity	10 (7.2)	10 (100.0)	-	0.289
Drug effect not necessary	9 (6.5)	9 (100.0)	-	
Untreated health problem	6 (4.3)	5 (83.3)	1 (16.7)	
Not classified	3 (2.2)	3 (100.0)	-	
Interventions				
Period n (%)				
August 2018	4 (2.9)	4 (100.0)	-	
September 2018	24 (17.4)	23 (95.8)	1 (4.2)	
October 2018	17 (12.3)	16 (94.1)	1 (5.9)	
November 2018	10 (7.2)	10 (100.0)	-	0.850
December 2018	15 (10.9)	15 (100.0)	-	
January 2018	2 (1.4)	2 (100.0)	-	
February 2019	33 (23.9)	29 (87.9)	4 (12.1)	
March 2019	33 (23.9)	31 (93.9)	2 (6.1)	
Types[3] n (%)				
Change in dosage/administration times	37 (26.8)	37 (100.0)	-	
Recommendation for non-laboratory monitoring	28 (20.3)	27 (96.4)	1 (3.6)	
Other signs and warnings	14(10.1)	14(100.0)	-	
Recommendation to perform laboratory test	13 (9.4)	10 (76.9)	3 (23.1)	
Medication discontinuation	11 (8.0)	11 (100.0)	-	
Substitution of the medication due to technical/clinical questions	10 (7.2)	10 (100.0)	-	0.005
Advice on scheduling/administration hours	10 (7.2)	8 (80.0)	2 (20.0)	
Warning regarding a severe drug-drug interaction	6 (4.4)	5 (83.3)	1 (16.3)	
Substitution of the medication due to technical/stock questions	3 (2.2)	3 (100.0)	-	
Change in the pharmaceutical presentation/administration route	3 (2.2)	2 (66.7)	1 (33.3)	
Change in the concentration/dilution	2 (1.5)	2 (100.0)	-	
Medication addition	1 (0.7)	1(100.0)	-	

[1]Dichotomous variable for which information of only one of the categories was presented. [2]Consensus of Grenada[10]. [3]Federal District's State Health Secretariat.

The interventions of the change in the dosage/administration times type were the most frequently performed (26.8%) and had 100% acceptance by the medical team. These results differ from other studies, where the interventions are more related to drug interactions.[26]

In order for the Clinical Pharmacy service to be successfully implemented, effective communication becomes essential, both in the relationship between pharmacist and patient, as well as in the relationship between pharmacist and the multidisciplinary team. Pharmacists must be prepared to face possible communication and relational difficulties so they can actively participate and promote discussions of clinical cases in an integrated manner with the multidisciplinary team. The activity also requires permanent updating and involvement in the training of other pharmacists, technicians and assistants, for maintenance and continuity of the service implemented. Therefore, in addition to technical grounds and professional maturity, pharmacists must develop other skills to face challenges during the implementation process of the Clinical Pharmacy service. The main challenges to be faces will be related to improving the capabilities for working in a multidisciplinary team, interpersonal communication, emotional intelligence and leadership.[1,3]

The clinical activity made the pharmacist more integrated into the multidisciplinary team of the hospital institution, ensuring greater safety in the use of medications by enabling identification of DRPs. For the pharmacist, implementation of the service means a re-conquest of the philosophy that this professional works not only for the patient, but also with the patient.[27]

Mental health services offer a vast field of opportunities for the performance of the clinical pharmacist. Therefore, greater integration of these professionals with the multidisciplinary team is indispensable, contributing their knowledge to the quality of the services provided to the patients, promoting rational use of medications and effective care for patients with mental disorders. In this way, the study contributes to the change in the object of classical Psychiatry, which becomes promotion of mental health and not merely the treatment of disorders.[28]

The main limitation of this study is its descriptive nature, characterized by the absence of a control group as a comparator and by the possibility of the occurrence of "researcher bias". The scarcity of similar studies conducted in psychiatric hospitals also hinders comparison of the results.

Conclusion

Implementation of the Clinical Pharmacy service improved communication between the pharmacists and the multidisciplinary team and enabled the detection of DRPs during the technical analysis of medical prescriptions and carrying out interventions with the medical team. In the assessment of the initial phase of the clinical activities, it was possible to identify the classes of medications most involved in DRPs and the broad acceptance by the medical team of the pharmaceutical interventions performed. It was observed that the implementation of the Clinical Pharmacy service enabled, through acceptance of the pharmaceutical interventions, better adequacy of medical prescriptions, avoiding possible risks for the patients. The study suggests that the Clinical Pharmacy practice can ensure greater safety and quality in the assistance provided to the patients. The results achieved by the interventions performed justify the adoption of patient safety measures such as the standardization of prescriptions and the implementation of clinical decision support to aid in the prevention of errors. The description of the implementation process and the analysis of the initial results obtained can help other mental health services to structure Clinical Pharmacy activities.

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Collaborators

Design, conception or data analysis and interpretation: GCC, JRAJ, MDL, RP. Writing of the article or relevant critical review of the intellectual content: GCC, JRAJ, MDL, RP.

Conflict of interest statement

The authors declare that there is no conflict of interest in relation to this article.

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