The Introduction of Pharmaceutical Care in Psychiatric Outpatients in Community Pharmacy of the Northeast Region of Argentina

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Abstract: The purpose of this paper is to implement a pharmaceutical care program in psychiatric outpatients in a community pharmacy. Outpatients (536) with psychiatric treatment requiring the dispensing of medication prescribed by a psychiatrist were followed up in a community pharmacy, where different medicines were prescribed as PS (pharmaceutical specialties), PC (pharmaceutical compounding) or both PS and PC. Each prescription was registered with details on a patient level. Also, three reporting sheets were designed: patients profile, patients monitoring and patients counseling. The total study population in the community pharmacy consisted of 536 outpatients: 357 (66.6%) females and 179 (33.4%) males. Most of the outpatients (78.5%) have health insurance, 50% correspond to public and 28.5% to private institution. The other patients (21.5%) do not have medical insurance. We also observed that the education level of these patients was: primary school 19.1%; high school 45.9%; college 15.3% and university 20.7%. Many patients had more than one psychiatric diagnosis, to whom were prescribed different medicines. All the medication studies on the charts were screened for prescriptions with antidepressants and other psychotropic drugs, starting on the date of first diagnosis made by a psychiatrist. The counseling to the patients was also registered. The possibility of the follow-up of these outpatients in the community pharmacy promoted the development of the psychiatric pharmacy and all advances in care for patients with mental health needs, working in closer collaboration with psychiatrists.

Key words: Community pharmacy, patient care, pharmaceutical care, pharmaceutical compounding, pharmaceutical specialties, psychiatric outpatient.

1. Introduction

The Northeast Region of Argentina, constituted by four provinces (Corrientes, Chaco, Formosa and Misiones), has a population of around 1,800,000 of inhabitants and 240 community pharmacies.

Last years, it has been recognized in the North Region of Argentina that the pharmacists belonging to the community pharmacies must be the key members of the primary health care team, in order to include the concept of pharmaceutical care as described by Hepler and Strand [1].

Recently, it was observed a worldwide growing consumption of psychotropic drugs [2-5] and it was considered the problems related to them, such as side

effects [6, 7] and abuse [8, 9]. A recent WHO (World Health Organization) report [10] shows that the global burden of psychiatric disorders has been heavily underestimated: five of the 10 leading causes of disability worldwide are psychiatric (unipolar depression, alcohol abuse, bipolar affective disorder, schizophrenia and obsessive compulsive disorder). One of the aims of WHO is to reduce this burden.

At a recent European meeting of pharmacists specialized in psychiatric care, the term "psychopharmacists" includes those pharmacists who are experts in the use of drugs to treat mental illnesses. Psychopharmacists are also the professionals well qualified to act as advisors on psychiatric drugs to psychiatrists, clinicians and other members on the health care team [11-13]. Moreover, several authors demonstrated the benefits of the pharmaceutical care

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system, the patient counseling and the rational prescribing [14, 15].

The emphasis of the delivery care to outpatient with neuropsychiatric disorders and monitoring the therapeutic outcomes by pharmacists has not yet been undertaken in our country with the term pharmaceutical care. For this reason, the aim of the present study was to determine that our pharmacists involved in the delivery of pharmaceutical care could offer such a service to these patients through the use of an interviewed-administered structured document, working in closer collaboration with psychiatrists.

2. Methods

An experimental prospective parallel cross-over study was conducted in a community pharmacy in the province of Corrientes, in the Northeast Region of Argentina. The study was divided in two parts. Two groups were defined in the first part: Group A: patients included in the pharmaceutical care program; Group B: control (patients not included in the pharmaceutical care program). On the second part, the two groups were crossed, in a way that the control group (Group B) on the first part of this work was the intervention group on the second part of it, and vice versa.

All the psychiatric outpatients, diagnosed by a group of 16 psychiatrists who were interviewed by the pharmacist, were included. It was also considered the family and/or caregiver together with the patients because of the characteristics of these pathologies, many times the counseling is directed to them more to the patients [16].

An informant consent was signed by the patients and/or the family and/or caregivers, and the totally confidentiality was assured [17, 18], as well as a written consent if the patients or a responsible caregiver want to quit the program.

Pregnant woman, children, developmentally-delayed patients who did not have a family member or caregiver responsible to sign the

informed consent [17, 18] and patients who can not be followed up for some reason or those who change the physician and/or the diagnostic were excluded.

Three kinds of reporting sheets were used: (1) patient profiles; (2) patient monitoring; (3) patient counseling. All personal data and health problems were collected on the patient profiles. The second reporting sheets were fulfilled with the drug related problems, and the third reporting sheet was carried out only by the intervention group.

Both groups with a quality of life scale [19] and a satisfaction service scale [20] were also monitored. We have got the data at the beginning of the program and at the end of each part.

3. Results and Discussion

A follow-up of 536 outpatients was carried out in the community pharmacy, to whom were prescribed different medicines, such as PS (pharmaceutical specialties), PC (pharmaceutical compounding) or both PS and PC. Each prescription was registered in details on a patient level computer system.

The total population consisted in: 357 (66.6%) females and 179 (33.4%) males. The distribution of the medicines prescribed in this population is presented in Table 1. As can be seen, the majority of these outpatients were in the 31~40-year age group.

As can be seen in our study, the pharmaceutical compounding were the most used medicines among these outpatients, 303 (36.53%) of them received pharmaceutical compoundings, 156 (29.10%) were prescribed with pharmaceutical specialties and 77 (14.37%) received both kind of prescriptions.

The outpatients in the present study were predominantly female. This disparity in sex distribution is similar to studies carried out in Northern Ireland: males 37% and females 63% [21], and in Great Britain: males 30% and females 70% [22], but more marked than a study carried out in Malta: males 43.7% and females 56.7% [23].

Most of the patients of this study (78.5%) have health

Table 1 Drug used in this study.

Anxiolytics	Antidepressants	Antipsychotics
Alprazolam	Amitriptyline	Bromperidol
Bromazepam	Bupropión	Chlorpromazine
Buspirona	Citalopram	Flusperilene
Clonazepam	Clomipramine	Haloperidol
Clorazepate	Fluoxetine	Levomepromazine
Chlordiazepoxide	Imipramine	Pimozide
Diazepam	Mianserine	Prometazine
Ethyl loflazepate	Mirtazapine	Risperidone
Lorazepam	Nefazodone	Sulpiride
Midazolam	Paroxetine	Thioridazine
Nitrazepam	Sertraline	Trifluoperazine
-	Tranlycypromine	-
-	Trazodone	-

Table 2 Distribution of prescriptions in relation to the ages ranges.

Ages (years)	PS		PS + PC		PC	
	Male	Female	Male	Female	Male	Female
0~10	0	0	0	0	0	0
11~20	2	7	2	4	18	7
21~30	7	18	6	9	17	43
31~40	11	21	6	8	26	50
41~50	9	18	5	9	23	36
51~60	8	24	5	8	10	27
61~70	7	13	6	5	4	24
More than 70	4	7	0	4	3	15

PS = patients prescribed with pharmaceutical specialties; PC = patients prescribed with pharmaceutical compounding; PS + PC = patients prescribed with pharmaceutical specialties and pharmaceutical compounding.

insurance, 50% corresponding to public and 28.5% to private institution. Only 21.5% of these patients do not have health insurance.

The education level of these patients was: primary school 19.1%; high school 45.9%; college 15.3% and university 20.7%.

Table 1 shows the medicines used by the patients in this study. All of them were prescribed by a doctor.

Table 2 shows the age of the patients, according to the kind of medicine they were taking. The majority of the patients were between 21 and 50 years old.

Table 3 shows the patients with neurological disorders. It should be noted that most of the prescriptions correspond to patients while other neurological condition is not specified.

The predominance of prescriptions dispensed to

patients with anxiety disorders was related to generalized anxiety disorders, social phobia and panic disorders with agoraphobia (Table 4).

It was observed a marked prevalence of major depressive disorders, followed by bipolar disorders in patients diagnosed with mood disorders (Table 5). As can be seen, the pharmaceutical specialties were the most dispensed medicines to the patients with major depressive disorders (three times more females than males).

The fewer medicines dispensed in our community pharmacy correspond to patients with psychosis (Table 6).

Our results show that most of the outpatients studied have different psychiatric diagnosis. These pathologies do not discriminates age, sex or educational

Table 3 Patients with neurological disorders.

Disorders	PS		PC		PS + PC	
	Male	Female	Male	Female	Male	Female
Alzheimer's Disease	1	2	-	4	-	-
Brain injury	8	5	-	1	1	-
Cerebrovascular accident	4	4	-	-	-	-
Down syndrome	2	5	2	-	3	2
Epilepsy	4	3	1	6	1	-
Mental retardation	2	3	3	-	-	-
Movement disorders	-	2	-	-	-	1
Other dementia	-	6	1	-	-	-
Others	3	18	4	6	-	-
Parkinson disease	1	1	2	3	1	1

PS = patients prescribed with pharmaceutical specialities; PC = patients prescribed with pharmaceutical compounding;
PS + PC = patients prescribed with pharmaceutical specialities and pharmaceutical compounding.

Table 4 Patients with anxiety disorders.

Disorders	PS		PC		PS + PC	
	Male	Female	Male	Female	Male	Female
General anxiety disorders	7	12	8	46	-	8
Obsessive compulsive disorders	-	-	7	5	-	3
Panic attacks	2	3	7	9	-	2
Panic disorder with agoraphobia	4	8	11	9	-	6
Panic without agoraphobia	-	3	12	6	-	3
Posttraumatic stress disorders	1	-	1	1	-	1
Simple phobias	3	1	3	11	3	2
Sleep disorders	2	2	1	1	1	1
Social phobia	2	3	4	19	3	1

PS = patients prescribed with pharmaceutical specialities; PC = patients prescribed with pharmaceutical compounding;
PS + PC = patients prescribed with pharmaceutical specialities and pharmaceutical compounding.

Table 5 Patients with mood disorders.

Disorders	PS		PC		PS + PC	
	Male	Female	Male	Female	Male	Female
Atypical depression	3	4	3	-	-	-
Bipolar disorders	12	16	11	26	6	12
Major depressive disorders	23	32	15	24	12	9
Pre-menstrual dysphoric disorders	-	5	-	6	-	7
Psychotic depression	6	4	2	-	3	2
Reactive depression	4	9	3	10	5	16
Seasonal mood disorders	3	6	2	-	2	-

PS = patients prescribed with pharmaceutical specialities; PC = patients prescribed with pharmaceutical compounding;
PS + PC = patients prescribed with pharmaceutical specialities and pharmaceutical compounding.

level. Almost every person, healthy or not, could be the target of them. That is the reason why the pharmacists must begin to introduce a pharmaceutical care program to follow up these patients, as mentioned by other authors [24].

There are many studies about the psychotropic drugs prescriptions [25-28]. Some of them lead us to conclude that these drugs are not used as rational as mentioned other authors [24], because some countries adopted strict prescriptions policies which decreased

Table 6 Patients with psychosis.

Disorder	PS		PC		PS + PC	
	Male	Female	Male	Female	Male	Female
Catatonic	3	5	2	2	3	-
Disorganized	-	-	-	3	-	1
Paranoid	3	2	3	2	3	3
Residual	-	4	-	2	-	1
Simple	-	7	5	5	-	3
Undifferentiated	-	-	1	1	-	3

PS = patients prescribed with pharmaceutical specialities; PC = patients prescribed with pharmaceutical compounding; PS + PC = patients prescribed with pharmaceutical specialities and pharmaceutical compounding.

the amount of psychotropic drugs consumed [29-32].

It should be noted that the psychiatric patient should be very carefully treated [12], so we may use the medicines in a most appropriate way, taking care of their side effects [6-9], which in different situations could cause the interruption of the treatment due to the non adherence [12-14]. The community pharmacists can play an important role because they are in an ideal position to assess and evaluate adherence-related problems that can adversely affect these outpatients' health outcomes.

We also could point out that this program demand the necessity of a strong interdisciplinary relationship between psychiatrist and pharmacists as health professional [11, 33], due to a lot of subjective parameters, which should be taken very carefully. Moreover, during this interaction pharmacist-psychiatrist, the pharmacist can identify drug therapy problems that might be interfering with the goal of the therapy prescribed by the psychiatrist.

Our results also agree with the goal of the European psychopharmacist [11] that lead the way to ensure that every patient receives safe, effective, economic and rational treatment and does not receive drugs when they are not appropriate. All these pharmacist interventions can help to improve the quality of life of these patients.

4. Conclusions

Our results show the importance of the provision of pharmaceutical care for developing collaborative work

between pharmacists and psychiatrists that benefits patient care in putting through the medicines prescribed. For this reason, ensuring optimal drug therapy is a multidisciplinary effort of psychiatrists, pharmacists and other health professionals

In addition, we can improve the rational use of drugs and increase adherence to treatment, in view of the failure in meeting them represents an important factor in the misuse of drugs.

The possibility to follow up these outpatients in the community pharmacy promotes benefits for those patients with mental needs or mental disorders improving their quality of life and getting back to their usual duties.

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