The influence of the clinical pharmacist in the management of depression

ABSTRACT

Background: Mental disorders are among the top ten causes of overload in health systems worldwide. Although traditional pharmaceutical interventions have proven effective in treating depression, the role of the pharmacist in personalized pharmaceutical care for depressed patients is still an emerging area of research and clinical practice, which may be even more effective. **Methods:**This study aimed to perform an integrative literature review using the NCBI/PubMed and EMBASE databases, in articles published until the year 2023, according to pre-established inclusion and exclusion criteria.**Results:** 360 publications were identified. Following the eligibility criteria, 210 duplicate publications were excluded and 145 were discarded because they did not meet the pre-established eligibility criteria. Thus, 5 original articles from 3 countries were included in the present study.**Conclusion:**According to the publications analyzed, it is demonstrated that depression has better response when there is pharmaceutical intervention, as well as multiprofessional. It is noted that factors such as adherence to treatment, control of adverse events related to medications, and quality of life of the patient are directly influenced by the intervention of the clinical pharmacist.

Keywords: Depression, clinical pharmacist, intervention, pharmaceutical care, influence,

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1. INTRODUCTION

Mental disorders are among the top ten causes of overload in health systems worldwide, with no evidence of a reduction in the number of cases since 1990 [1]. Among mental disorders, depression is a serious disorder that affects millions of people worldwide, so it represents one of the main causes of disability and global burden of disease [2, 3].

In general, the objectives of the treatment of depression are focused on the total recovery of the patient, implying both the remission of depressive symptoms and the restoration of vocational and interpersonal functions. However, recurrence of depressive symptoms is observed after successful acute treatment, which is common and is a significant clinical concern [4, 5].

Since both the diagnosis and treatment of depression require effective and multidisciplinary therapeutic approaches, there is a favorable context for pharmaceutical care, which emerges as a promising and complementary approach to optimize the management of the disease [6, 7].

Pharmaceutical care (PS) is a model of clinical practice in which the pharmacist takes an active role in health care, collaborating with other health professionals to achieve optimal therapeutic results [8, 9]. Therefore, the focus of PA is to ensure a rational, safe, and cost-effective pharmacotherapy with health promotion and education, pharmaceutical guidance and pharmacotherapeutic follow-up [10, 11].

Focusing on the individuality of the patient, PA is based on the identification of problems related to medicines, continuous monitoring, patient education about their treatment and prevention of risks and drug reflux [12, 13]. The clinical pharmacist works in the multidisciplinary team establishing a relationship of trust with his patient, facilitating communication between health professionals involved in the management of depression through tools that assist in adherence to treatment [14, 15]. In addition, the risk of recurrence is significantly reduced with adherence and continuation of pharmacological treatment after acute treatment [16, 17].

Although traditional pharmaceutical interventions have proven effective in treating depression, the role of the pharmacist in personalized pharmaceutical care for depressed patients is still an emerging area of research and clinical practice, which may prove to be more effective [18].

Thus, this study aimed to analyze and synthesize the available scientific evidence on pharmaceutical care in the treatment of depression, considering the clinical outcomes, adherence to treatment, the safety of drug use and patient involvement in the therapeutic process.

2. METHODOLOGY

A search was performed in the PUBMED and EMBASE databases, with no start date until September 10, 2023. Based on the components of the PICOS strategy

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question, the search terms used the MeSH (Medical Subject Headings) terminology. As a search strategy, the terms were used as follows: ("Depression") AND ("Pharmaceutical Care"), in English and Portuguese. Two reviewers independently performed the bibliographic research and reviewed all publications identified according to the PRISMA guidelines through the Rayyan software, being elucidated any disagreements by a third reviewer.

All studies were analyzed for eligibility according to the following criteria: (i) concise approach to the impact of pharmaceutical care on the prognosis of depressive patients, (ii) studies with adults. The following publications were excluded from this review: letters, case reports, reviews and meta-analyses, conference summaries, studies related to other types of pathologies and studies in which there was no participation of the pharmacist in the multidisciplinary team of care for patients with depression.

3. RESULTS AND DISCUSSION

The search in the databases resulted in the identification of 360 publications. Of these, 210 were excluded because they were duplicate publications and 145 were discarded because they were narrative/systematic/editorial reviews or studies with other pathologies; that is, because they did not meet the pre-established eligibility criteria.

Thus, the sample of this study was composed of 5 original articles, published between 2013 and 2023, from 3 countries. Considering the 5 studies selected for this review, 3 studies were conducted in the United States of America (USA), 1 in Spain and 1 in Japan. All studies were written in English, and, regarding the design of the studies, 2 were case-control articles, 1 prospective and retrospective cohort, 1 prospective and 1 longitudinal cohort, as shown in Table 1.

Author	Year	Country	Delineation
Gallimore *et al*. [19]	2013	USA	Prospective and retrospective cohort
Valera *et al*. [20]	2016	Spain	Case-control
Harms *et al*. [21]	2017	USA	Longitudinal

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Tang *et al*. [22]	2017	USA	Prospective cohort
Shoji *et al*. [23]	2023	Japan	Case-control

Table 1. *General distribution of selected articles.*

The selected studies demonstrate adherence to antidepressant pharmacotherapy and adverse drug reactions. Experimental studies in Pharmaceutical Care usually evaluate a variety of results, such as adherence to treatment, disease control, adverse drug-related events, patient quality of life, among others. These measures help to assess the effectiveness of pharmaceutical interventions in improving health outcomes.

The studies addressed interventional strategies for monitoring medications, most performed by telephone [21, 22 23]. Patients received scheduled phone calls at pre-established time intervals for evaluation of drug therapy. All selected studies involved the participation of the pharmacist in the multidisciplinary team as an active and crucial part in the improvement and prognosis in the patient. Interventions made by students of the pharmacy course in a depression clinic were evaluated, as well as the analysis of the impact of interventions in the prevention of relapses in depression and primary care with a randomized randomized control study. Also, it is worth mentioning that randomized controlled designs can be used to evaluate the efficacy of Pharmaceutical Care, which involves randomization of participants in intervention groups according to Pharmaceutical Care, and control groups, which allows to compare results between groups and determine the impact of Pharmaceutical Care [23].

Chart 1 illustrates the reference, number of participants, main results and completion of the studies included in this review.

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Author/year	Number of patients	Main results	Conclusion
Tang *et al.* (2017)	34	Of 78 referrals, 34 completed medication reconciliation and antidepressant treatment history. Of the 34 patients, 25 had at least one discrepancy identified in their medication list, resulting in 164 medication changes in the electronic medical record. A total of 105 previous antidepressant trials were documented in 34 individualsand were considered	Many discrepancies in medication registration and drug treatment history were identified in patients with depression before the clinical consultation. The project supports specialized work for pharmacy students

		inadequate. Thirteen patients reported a failure to respond to two different antidepressants from different classes.	and demonstrates that interprofessional care can contribute to improve the treatment of depression.
Harms *et al.* (2017)	50	50 patients were analyzed, all aged over 18 years and 100% male. Once referred to drug management, the clinical pharmacist worked, to provide a brief management of psychotropic drugs, the drugs administered include antidepressants, Prazosin, uncontrolled anxiolytics and sleeping pills, as appropriate. Medication regimens were adjusted appropriately based on the mental health rating scales of each patient.	The clinical pharmacist can make an impact by improving mild to moderate mental health conditions, promoting interdisciplinary collaboration, and increasing documentation and follow-up in line with published treatment guidelines.
Shoji *et al.* (2023)	31	Four community pharmacies in Japan participated in the study and enrolled patients with unipolar depression. Their medication adherence and adverse drug reactions were monitored by telephone, pharmacists in the intervention group participated in a training session on drug support based on cognitive behavioral therapy (CBT). Four pharmacies (two in GI and two in GC) completed the intervention period.	Drug support based on CBT provided by community pharmacists can improve patient medication adherence to antidepressant therapy and symptoms. This support can be expected to facilitate better treatment of depressed patients and allow the duration of treatment to be shortened.
Gallimore *et al.* (2013)	50	Implementation of a monitoring protocol in which each newly initiated patient on an antidepressant would have three follow-ups within 12 weeks. Subsequently, a review of medical records was performed to compare data before and after the protocol.	A telephone follow-up protocol is a viable method to improve the follow-up of antidepressants in a high-risk primary care environment. However, recommended monitoring compliance rates remain low.
Valera *et al.* 2016	179	Randomized clinical trial. Of the 179 patients who started antidepressants, 113 whose symptoms had regressed in the 6-month evaluation were selected for the secondary study. Patients who received a pharmaceutical intervention were more likely to maintain adherence to treatment than patients who received the usual care.	Compared to the usual treatment, patients who received pharmaceutical intervention showed a tendency to have fewer relapses, however this result was not significant.

Chart 1. *Description of the findings in the studies selected in this review.*

The work of Gallimore et al. [19] demonstrated that implemented a monitoring protocol as a quality improvement project at the Wingra Access Medical Center - United States of America, in which patients treated for anxiety or depression received a follow-up call 1 to 2 weeks after the onset of an antidepressant. Local study guidelines recommend that patients treated for depression receive 3 follow-ups within 12 weeks of antidepressant initiation, however, this is often not achieved

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in practice. The method proposed by the authors proved to be feasible to improve the follow-up of antidepressants in primary care. A retrospective review of medical records showed that the percentage of patients who achieved three follow-ups at 12 weeks increased significantly from 7% to 24% after implementation. However, this study did not consider confounding factors, including differences between cohorts and the introduction of a behavioral health service. Being the clinical pharmacist specialized in the evaluation and monitoring of medicines, there is, in the context of mental illnesses, a review of the therapeutic identification of potential drug interactions and optimization of pharmacotherapy - key factors to ensure the effectiveness of treatment and minimize unwanted side effects.

From another perspective, the randomized clinical trial conducted by Valera et al. [20] evaluated the impact over time of a pharmaceutical intervention in relation to usual attention in preventing relapses in depression. Participated in the study 179 patients with depression starting treatment with antidepressants, of these, the 113 whose symptoms regressed (primary definition criteria) at 6 months (intervention group) were selected for a secondary analysis, group in which there was no intervention. As an intervention, a personal interview was conducted in the community pharmacy to improve therapeutic adherence during drug dispensing. The severity of depressive symptoms was evaluated at 6 months, in 3 measurements and those patients who presented remission were selected. Her medical records were reviewed to identify relapses, using 4 indicators, in the following 12 months. The group that received intervention showed a non-significant tendency to present a lower number of recurrences, this may be related to the improvement in adherence among patients who received pharmaceutical intervention.

The study by Harms et al. [21] sought to investigate the impact that a clinical pharmacist integrating a multidisciplinary mental health integration team had on the results and interventions of patient treatment. The authors also evaluated drug adherence rates. 336 therapeutic interventions were performed, and the overall rate of drug adherence was 82.9%. Regarding this, the management of the medication, provided by a clinical pharmacist, was associated with a statistically and clinically significant improvement in several criteria of the classification scale of mental illness disorders. As the lack of adherence to treatment is a significant challenge in mental health, the clinical pharmacist can play a crucial role in promoting adherence, working closely with the patient to understand, and overcome barriers that may hinder compliance with the treatment plan.

Mental disorders often involve drug therapies with potential side effects. The clinical pharmacist plays a crucial role in monitoring and managing these effects, ensuring that the patient has a positive experience with the treatment (Valera et al, 2016). In addition, the work of the multidisciplinary team - collaboration between the clinical pharmacist and mental health professionals, such as psychologists, psychiatrists, and therapists - is fundamental. This facilitates effective communication about the treatment plan, allowing quick adjustments, when necessary, as well as the exchange of information between the members of the multidisciplinary team promotes a holistic approach to the patient's well-being [21].

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To improve the treatment of patients with depression, the experimental pilot study developed by Tang et al [22] created and evaluated a service project involving pharmaceutical students who conducted drug reconciliation and review of antidepressant treatment history at the University of Michigan Center for Depression. From an initial sample of 78 referrals, 41 individuals were contacted by telephone, with 34 completing drug reconciliation and treatment history with antidepressants. Of the 34 patients, 25 (73.5%) had at least one discrepancy identified in their list of medications, resulting in 164 changes in the electronic medical record. A total of 105 previous antidepressant trials were documented in 34 subjects, with 34 (32.4%) trials considered inadequate. Thirteen (38.2%) patients reported failure to respond to two different antidepressants of different classes. All 34 patients participated well in phone calls and were willing to consult a pharmacist on their next clinical visit. The pilot project of analysis of history of antidepressant treatment and drug reconciliation guided by students of the pharmacy course in a depression clinic was feasible, identified many discrepancies in medication registration and clinical history of drug treatment in patients with depression before clinical consultation. The project also reinforced the importance of specialized work for pharmacy students and demonstrates that interprofessional care can contribute to improve the treatment of depression.

The non-randomized interventional study conducted by Shoji et al [23] sought to investigate the effects of interventions based on cognitive-behavioral therapy of community pharmacists on medication adherence and relevant indicators in patients with depression in Japan. The authors showed that drug support based on cognitive behavioral therapy provided by community pharmacists may improve patient's drug adherence to antidepressant therapy and symptoms.

This study was conducted between June 2019 and May 2020 using a non-randomized, open, and parallel group design. Four community pharmacies in the provinces of Osaka and Hyogo, Japan, participated in the study and enrolled patients with unipolar depression, two in the intervention group and two in the control group. In the intervention group (IG), patients received drug support based on cognitive behavioral therapy, and their adherence to medication and adverse drug reactions were monitored by telephone. In the control group, pharmacists performed routine interactions with study participants. Before participating in this study, the pharmacists in the intervention group participated in a 5-hour training session on drug support based on cognitive behavioral therapy. The primary outcome of this study was drug adherence, assessed using the Drug Attitude Inventory (DAI)-10 instrument. Secondary outcomes included changes from the beginning of the 6 months in the following variables: total score of the patient's health questionnaire, patient satisfaction and the pharmacists' confidence scale on the score of the drug consultation for depressive patients. In the intervention group, the mean DAI-10 score increased from 4.941 at baseline to 6.105 and the mean patient satisfaction score increased from 39.947 to 42.211. In the control group, the mean DAI-10 score decreased from 6.333 to 4.167.

The prevalence of depression is increasing in Japan. Pharmacists play an important role in helping patients use drugs effectively. Several studies investigated the impact of community pharmacists on patients' adherence to antidepressant therapy

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and their results indicated that further studies were needed [23]. This support can be expected to facilitate better treatment of depressed patients and allow the duration of treatment to be shortened.

The presence of the clinical pharmacist in the multidisciplinary team in the management of mental diseases has been essential to ensure a complete and coordinated approach in patient care. His expertise in pharmacotherapy, drug monitoring and patient education contribute to more effective outcomes and better quality of life for those facing mental health challenges.

4. CONCLUSION

Despite being a highly effective form of birth control, Implanon has important side effects that directly impact the discontinuation of the contraceptive method by patients. In addition, factors such as lack of information, insecurity, and other secondary factors such as the desire to become pregnant, desire to exchange contraceptives, misconceptions, and even peer pressure or opposition are also significant factors regarding discontinuation.

Thus, prior information about the effects that may be associated, as well as the elucidation of doubts and relief of possible anxieties that may be associated with the use are measures that may prevent discontinuation of use, in order to maintain birth control, and promote the well-being of patients. In this scenario, the training of the multidisciplinary team in the instruction of patients can also be a determining factor in the non-disruption of the method by patients.

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