Impact of the COVID-19 pandemic: Community and hospital shared pharmaceutical care model. Satisfaction and acceptability of patients with HIV infection on antiretroviral treatment

Satisfaction and acceptability of patients with HIV infection on antiretroviral treatment

ABSTRACT

Background. The health crisis due to the COVID-19 pandemic is a challenge in the dispensing of outpatient hospital medication (OHM). Models of Antiretroviral Therapy (ART) based on community pharmacy support (ARTCP) have proven to be successful. The aim was to evaluate the degree of satisfaction, acceptability and limitations of the implementation of ARTCP, in the context of a pandemic, in our environment.

Methods. Descriptive cross-sectional study carried out in a Barcelona hospital, during the months of July-November 2020. A telephone survey was carried out via a questionnaire on the quality dimensions of the model (degree of satisfaction, acceptability) and associated inconveniences. Data collected: demographics, antiretroviral treatment (ART), concomitant medication, drug interactions (DDIs), CD4 lymphocyte count and plasma viraemia. Data analysis included descriptive statistics.

Results. A total of 533 (78.0%) HIV patients receiving ART were included. 71.9% (383/533) of these patients were very satisfied and 76.2% preferred attending the community pharmacy rather than the hospital. The mean satisfaction rating was 9.3 (DS: 1.4). The benefits reported were: 1) proximity to home (406: 76.1%); 2) lower risk of contagion of COVID-19 (318: 59.7%); 3) shorter waiting time (201: 37.1%); 4) time flexibility (104: 19.5%); 5) reduction of financial expenses (35: 6.57%). A total of 11 (2%) patients reported no benefit. Only 22.9% reported disadvantages associated with ARTCP: 1) lack of privacy (65: 12.2%); 2) lack of coordination-organization (57: 10.7%).

Conclusion. The COVID-19 pandemic has had an impact on the provision of pharmaceutical care for HIV patients. The ARTPC model has proved efficient, with patients reporting a high degree of satisfaction.

Keywords: Antiretroviral therapy, pharmaceutical care; COVID-19

RESUMEN

Introducción. La crisis sanitaria por la pandemia COVID-19 plantea un desafío en la dispensación de la medicación hospitalaria de dispensación ambulatoria (MHDA). Los modelos de terapia antirretroviral basados en el apoyo de la farmacia comunitaria (TARFC) han demostrado tener éxito. El objetivo del estudio fue evaluar el grado de satisfacción, aceptabilidad y limitaciones de la implementación del TARFC, en contexto de pandemia, en nuestro entorno.

Métodos. Estudio descriptivo transversal realizado en un hospital de Barcelona, durante los meses de julio-noviembre del 2020. Se realizó una encuesta telefónica, mediante un cuestionario sobre dimensiones de calidad del modelo (grado de satisfacción, aceptabilidad) e inconvenientes asociados. Se recogieron datos: demográficos, tratamiento antirretroviral (TAR), medicación concomitante, interacciones farmacológicas (DID), recuento de linfocitos CD4 y viremia plasmática. El análisis de datos incluyó estadística descriptiva.

Resultados. Se incluyeron 533 pacientes VIH adherentes al TAR. El 71.9% (383/533) de pacientes estaban muy satisfechos y el 76.2% preferían acudir a la farmacia comunitaria frente a la hospitalaria. La calificación de satisfacción media fue de 9,3 (DS: 1,4). Los beneficios reportados fueron: 1) cercanía al domicilio (406: 76,1%); 2) menor riesgo de contagio...
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RESULTS

Participants and characteristics of antiretroviral treatment. A total of 533 HIV patients were included in the study from a cohort of 683 HIV patients adhered to ART who, at the time of the study, agreed to participate in the project of shared pharmaceutical care with community pharmacies. 150 (21.9%) patients were excluded (Figure 1).

The characteristics of the patients included are summarized in Table 1. The majority (73.5%) were Caucasian and men (82.6%), the mean age was 48 years (DS: 11.9). 75.2% (401/533) of patients received triple ART regimens, 108 (20.3%) dual therapy patients and 22 (4.1%) monotherapy patients.

The antiretroviral treatment used by the 533 patients included can be summarized as 57% (304/533) received regimens based on integrase inhibitors (INI); 18.9% received regimens based on non-analog reverse transcriptase (NNRTI); 13.9% took a protease inhibitor potentiated based therapy; 86.1% of patients received nucleoside / nucleotide analog reverse transcriptase; and 10.8% other combination regimens. Triple therapy was used by 75.2 %, and mono or dual therapy by 24.4% of patients.

The co-medicated patients were 57% (304/533), with a median of 3 drugs per patient and with 16.7% of patients taking 5 or more drugs. Recreational or abuse drugs were taken by 33% of patients 33% and 6% of them for “chem-sex” purposes. Among the prescribed drugs, the most frequent were: psychotropic drugs (anxiolytics 14.3%, antidepressants 13.9%, anticonvulsants 8.1%, neuroleptics 4.5%, methadone 4.5%); anti-hypertensive (ACE inhibitors or angiotensin receptor blockers 12.1% beta blockers 5.3%, diuretics 4.7%, calcium-channel blockers 4.5%) lipid-lowering and oral antidiabetics (statins 15.2%, fibrates 5.3%, oral antidiabetics 4.3%; proton pump inhibitors 10.9% Vitamin and mineral supplements represented 24.6% of the concomitant drugs.

DDIs were detected in 109 patients (20.4%); 26 (23.4%) were considered potential weak interaction 73 (67%) potential interaction, and 10 (9%) contraindicated. In the latter, the potentiated protease inhibitor (darunavir/cobicistat) is involved in 80% of cases with: budenoside (2 cases), quetiapine, bisoprolol, domperidone, phenitoine, midazolam, lercanidipine. Rilpivirine was involved in 2 cases with: eslicarbazepine and omeprazole.

Qualitative cross-sectional survey of the new ART dispensing model. Table 2 describes the results gathered from the satisfaction questionnaire (n = 533). At the time of the survey, 49.2% (262/533) of patients had visited the community pharmacy at least 3 times to collect ART, 40.2% (214/533) 2 times, and only 6.8% (36/533) once. Most of the patients (71.9% (383/533)) were very satisfied and preferred to go to the community pharmacy to collect ART (406: 76.2%); the mean score was 9.3 (DS: 1.4) on a scale of 1 to 10 points, with 10 being the maximum satisfaction. The benefits reported by the patients were: 1) proximity to home (406: 76.1%); 2)
lower risk of contagion of COVID-19 (318: 59.66%); 3) shorter waiting time (201: 37.1%); 4) time flexibility (104: 19.5%); 5) reduction of expenses (especially for public transport) (35: 6.57%). A total of 11 (2%) patients reported no benefit. Most patients (411/533; 77.1%) confirmed that they did not encounter any problems. The main limitations reported were: 1) lack of privacy preservation (65: 12.2%); 2) lack of coordination in the organization (Hospital Pharmacy-Community Pharmacy (57: 10.7%)).

**DISCUSSION**

The approach to shared pharmaceutical care between community and hospital pharmacies in dispensing OHM, with the leadership of the hospital pharmacy, is expanding into new practice settings and includes improved patient care services, especially for those with chronic diseases [12-14], and particularly in patients living with HIV [15,16].

The integration of the community pharmacy into an ART dispensing program, coordinated from the hospital pharmacy, was conceived in response to the COVID-19 pandemic during the most restrictive confinement period, out of concern that patients would interrupt ART due to difficulties in travelling to the hospital, and for security reasons, avoiding overcrowding of patients in the hospital pharmacy and thus reducing the risk of spreading COVID-19. The present study describes the experience and can be considered successful. 71.9% of the patients were very satisfied and most of them preferred to continue...
The value of the clinical pharmacist as a member of a multidisciplinary HIV care team resulted in improvements in ART adherence [18], in the detection of DDIs, as well as in the quality of prescription and patient safety [20]. It would be interesting to carry out specific training in the area of patient care in ART for community pharmacists. Indeed, in the present study, 20.5% of DDIs that could be detected early were identified.

The main limitation of this study is that it was carried out in a cohort of stable HIV patients, with optimal adherence to ART (selected by computerized registries of the Hospital Pharmacy), therefore it is subject to selection bias. Specific studies would be required in patients with suboptimal adherence, or risk thereof (cultural barrier, social problem, psychiatric disorder) in order to evaluate whether community pharmaceutical care continues to offer the benefits and safety it has demonstrated in highly adherent patients.

The COVID-19 pandemic has valued shared pharmaceutical care between community and hospital pharmacy and will likely reveal new roles that they could play in our environment, beyond the pandemic.

FUNDING

None to declare
CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

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