

Case report of patients with chronic non-communicable diseases in pharmacotherapeutic monitoring remotely during the COVID-19 pandemic

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SUMMARY

Introduction: due to the COVID-19 pandemic, elective consultations were suspended, some of which were carried out by teleconsultation. In this context, the pharmacist had a lot to contribute through supported self-care, resolution of minor disorders and referral, when necessary, to the appropriate level of health care, according to the patient's health needs and the organization of the health system during the pandemic. To this end, technology works as an ally, as it allowed interaction with the patient, reduces the movement of people and financial expenses in the search for services. **Objective:** to describe two case reports of patients, attended by the University Pharmacy of UFBA, with chronic non-communicable diseases in pharmacotherapeutic monitoring by remote means during the pandemic. **Material and Methods:** in view of the above, this study aimed to describe two successful experiences of pharmaceutical teleconsultation for patients with chronic noncommunicable diseases during the COVID-19 pandemic. **Results:** in both cases, it was possible to verify that the easy access to the pharmaceutical professional, as well as the contact and continuous monitoring of medication users, proved to be fundamental to generate supported self-care, better adherence to pharmacotherapy and self-management of medications and lifestyle habits.

Keywords: Chronic diseases, pharmaceutical services, teleconsultation, COVID-19.

RESUMEN

Reporte de caso de pacientes con enfermedades crónicas no transmisibles en seguimiento farmacoterapéutico a distancia durante la pandemia de COVID-19

Introducción: debido a la pandemia del COVID-19, se suspendieron las consultas electivas, algunas de las cuales se realizaban por teleconsulta. En este contexto, el farmacéutico tenía mucho que aportar a través del autocuidado apoyado, la resolución de trastornos menores y la derivación, cuando fuera necesario, al nivel de atención adecuado, de acuerdo con las necesidades de salud del paciente y la organización del sistema de salud durante el pandemia. Para ello, la tecnología funciona como un aliado, ya que permitió la interacción con el paciente, redujo el movimiento de personas y los gastos económicos en la búsqueda de servicios. **Objetivo:** describir dos relatos de casos de pacientes con enfermedades crónicas no transmisibles, asistidos por la Farmacia Universitaria de la UFBA, en acompañamiento farmacoterapéutico por medio remoto durante la pandemia. **Material y métodos:** por lo anterior, este estudio tuvo como objetivo describir dos experiencias exitosas de teleconsulta farmacéutica para pacientes con enfermedades crónicas no transmisibles durante la pandemia de COVID-19. **Resultados:** en ambos casos se pudo constatar que el fácil acceso al profesional farmacéutico, así como el contacto y seguimiento continuo de los usuarios de medicamentos, se mostró fundamental para generar autocuidado apoyado, mejor adherencia a la farmacoterapia y autocontrol, manejo de medicamentos y hábitos de vida.

Palabras clave: Enfermedades crónicas, servicios farmacéuticos, teleconsulta, COVID-19.

RESUMO

Relato de caso de pacientes com doenças crônicas não transmissíveis em acompanhamento farmacoterapêutico remoto durante a pandemia da COVID-19

Introdução: devido à pandemia do COVID-19, as consultas eletivas foram suspensas, algumas das quais foram realizadas por teleconsulta. Nesse contexto, o farmacêutico teve muito a contribuir por meio do autocuidado apoiado, resolução de pequenos distúrbios e encaminhamento, quando necessário, para o nível

adequado de atenção à saúde, de acordo com as necessidades de saúde do paciente e a organização do sistema de saúde durante o período de internação. pandemia. Para tanto, a tecnologia funciona como aliada, pois permitiu a interação com o paciente, reduz a movimentação de pessoas e gastos financeiros na busca por serviços. **Objetivo:** descrever dois relatos de casos de pacientes com doenças crônicas não transmissíveis, atendidos pela Farmácia Universitária da UFBA, em acompanhamento farmacoterapêutico por meio remoto durante a pandemia. **Material e métodos:** diante do exposto, este estudo teve como objetivo descrever duas experiências exitosas de teleconsulta farmacêutica para pacientes com doenças crônicas não transmissíveis durante a pandemia de COVID-19. **Resultados:** em ambos os casos, foi possível verificar que o fácil acesso ao profissional farmacêutico, assim como o contato e acompanhamento contínuo dos usuários de medicamentos, mostraram-se fundamentais para gerar o autocuidado apoiado, melhor adesão à farmacoterapia e autocuidado, a gestão de medicamentos e hábitos de vida.

Palavras-chave: Doenças crônicas, serviços farmacêuticos, teleconsulta, COVID-19.

INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) declared the infection by the new coronavirus (SARS-Cov-2) as a pandemic [1]. In this period, several Brazilian locations have adopted measures of social distance as the main effective tool for the reduction of contagion by the disease known as COVID-19 (Decree Government of the State of Bahia N° 19,529/2020; Decree of the Municipality of Salvador No. 32,280/2020) [2, 3]. This unique moment in history has led to changes in the dynamics of services and health care for the population, including pharmaceutical services.

Elective consultations have been suspended or made possible through remote means such as online and telephone calls. In the pharmaceutical field, Collegiate Board Resolution No. 44/2009 provided for the possibility of dispensing medicines remotely (telephone, facsimile and internet) with the guarantee of the right to information and guidance on the use of the requested medicines, through direct and immediate communication with the pharmacist [4].

In 2022, the Federal Council of Pharmacy regulated Resolution No. 727/2022 that provides for the regulation of Telepharmacy in Brazil, understood as the exercise of Clinical Pharmacy mediated by Information and Communication Technology (ICT), remotely, in real time (synchronous) or asynchronous, for purposes of promotion, pro-

tection, monitoring, recovery of health, prevention of illnesses and other health problems, as well as for the resolution of pharmacotherapy problems, for the rational use of medications and other technologies in health [5].

In countries like Pakistan, China and Columbia, pharmacists have worked to offer clinical services from remote environments in non-clinical areas, in health units and pharmacies or in their own homes. The aim was to contribute to social distance and prevent people from leaving, as well as making health information available to those who did not have easy access to medical consultations, such as in poor and developing countries [6].

Pharmacotherapeutic follow-up is a type of pharmaceutical service in which, in the care process, problems and negative results related to medications are identified through the analysis of causes and documented interventions with the objective of solving or preventing them. As its name demonstrates, continuity of care is characteristic of this service, which results in multiple pharmaceutical consultations with a comprehensive view of the patient. For this reason, several other services can be developed in pharmacotherapeutic follow-up, such as health education, review of pharmacotherapy and health screening [7].

This pharmaceutical clinical service has been quite targeted and effective for people with chronic noncommunicable diseases (NCDs), which are the leading cause of death worldwide, accounting for 63% of global deaths [8]. The prevalence of NCDs is associated with an aging population, which, in general, is affected by multimorbidities and, therefore, is polymedicated. Thus, for the control of diseases, a multidisciplinary approach is needed, centered on the patient, in which the pharmaceutical intervention can promote better results with pharmacotherapy and non-drug treatment [9].

In the perspective of the current pandemic of COVID-19, in which the elderly and people with NCDs had been at higher risk, health care had to redouble efforts to control chronic health conditions and the effective social detachment of this population, which can develop serious conditions such as acute respiratory syndrome, pneumonia (viral or due to bacterial complications) and evolution to death [10].

In this context, the pharmacist had a lot to contribute through supported self-care, the resolution of minor disorders and referral, when necessary, to the appropriate level of health care, according to the patient's health needs and the organization of the health system during the pandemic. To this end, technology worked as an ally, as it allowed interaction with the patient and it reduced the movement of people and the financial expenses in the search for services [11].

In view of the above, this study aimed to describe two case reports of patients, attended by the University Pharmacy of UFBA, with chronic non-communicable diseases undergoing pharmacotherapeutic monitoring by remote means and who had minor health disorders during the pandemic.

MATERIAL AND METHODS

The design of the study was the case report [12]. The case reports refer to two patients treated remotely by pharmacists from the UFBA University Pharmacy during the COVID-19 pandemic, in the period from March to May 2020, residents of the city of Salvador-BA. These patients had previously been treated during the pandemic and needed to monitor two health problems during the Public Health Emergency. The names used in the work for patients are fictitious.

The consultations were carried out with the WhatsApp® application, via the exchange of text messages, audios and images. The image files contained photos of medications, prescriptions and/or exams, made available to the patient when requested by the pharmacist, depending on the need, for pharmaceutical evaluation.

The message exchanges occurred by spontaneous demand from two patients followed by two questions and answers from pharmacists regarding health complaints, as well as known health problems, for monitoring and control purposes.

The clinical record was based on the SOAP method (Subjective, Objective, Evaluation and Plan). A form (electronic record) was created in Microsoft Office Excel® for the clinical record of appointments. The conversations were deleted after completing the medical record to protect the confidentiality of patient information, according to the General Law for the Protection of Personal Data No. 13,709 of August 14, 2018 [13].

The case discussions were based on clinical and therapeutic aspects, considering symbolic elements related to each patient's medication experience. Drug-Related Problems were classified according to the document "Pharmaceutical Care in Primary Care: notebook 2" [14].

As these are cases involving patients with chronic non-communicable diseases, the self-care tool supported "Stages of Motivation for Change" proposed by Prochaska and Di-Clemente in 1982, a transtheoretical model that describes change, was used in pharmaceutical consultations as a process experienced in different stages of motivation and readiness [15]. The attitudes presented by the patients in relation to the motivation for changes in lifestyles with an impact on their health conditions were classified according to Table 1.

Table 1. Stages of motivation for change (Prochaska and Di-Clemente, 1982)

Stage	Features
PRE-CONTEMPLATION	That's not a problem for me now, I'd rather leave everything as it is.
CONTEMPLATION	I think about changing that, but not now. Maybe in the next 6 months.
PREPARATION	I am determined to change now, no later than 1 month (30 days) and I am planning how to do so.
ACTION	I started to change, I put the plan into action but less than 6 months ago.
MAINTENANCE	I've assumed this change for over 6 months and it's already natural for me to do so.
SLIDE (LAPSE)	I was acting differently, I "slipped" but I intend to resume the plan.
RELAPSE	I gave up, went back to acting pretty much like before and abandoned the plan.

Ethics approval

The research project was approved by the Research Ethics Committee of the Faculty of Pharmacy of the Federal University of Bahia under number 4.756.998.

RESULTS AND DISCUSSION

Case 01:

The first story refers to Mrs. Judith, 68 years old, diagnosed with hypertension, osteoporosis and overweight. She lost her brother at the age of 28 due to "a heart attack", her father due to "Alzheimer's" complications and her mother due to the worsening of "Chagas' disease". In relation to her medication experience, she reported at the first consultation not taking the medications regularly, as she thinks it is "abuse" to take them every day. She reported self-medication for pain with orphenadrine associated with dipyrone; loperamide when she experiences diarrhea due to emotional issues; and vitamin supplements. In the first consultation, she presented several drugs, perforated, expired and with pills left in the cards. She is sedentary and on a low fiber diet with fried foods and little salt reduction. Hypertension is decompensated. The blood pressure measured in the last face-to-face consultation was 148x85 mmHg. The medications recently prescribed for chronic conditions were: losartan 50 mg (once in the morning); hydrochlorothiazide 25 mg (once in the morning); acetylsalicylic acid 100 mg (once in the morning); and sodium alendronate 70 mg (once a week). During the pandemic, she came into contact reporting diarrhea, vomiting and weakness for 3 days, possible case of acute infectious diarrhea, due to spoiled food. Anamnesis was

carried out and the patient was instructed to take the medication for chronic use correctly, administer a homemade serum for oral rehydration, drink plenty of fluids and eat properly. The next day, she described improvement, although she still had intestinal cramps, nausea and weakness. She continued to feed on fried foods and was advised to redirect the diet towards the consumption of non-greasy foods until total remission of the symptoms, in addition to maintaining hydration with plenty of water and taking probiotics, starting the treatment. She also reported, non-adherence to pharmacological therapy for chronic conditions because she thought that “too much medicine could harm her” and was instructed to resume the correct use of medicines. At the end of the follow-up, the patient reported an improvement in the symptoms presented related to diarrhea and being correctly taking the medications for continuous use, in addition to better blood pressure control.

The case of Mrs. Judith sparks important discussions. First, from the point of view of self-care, it is noted that its motivational stage for changes in lifestyle can be considered as of pre-contemplation, with a resigned posture - that it gave up the possibility of change and seems buried by the problem (which does not consider the possibility of changing, nor is it concerned with the issue) [15].

Another important aspect is the profile of the patient’s medication experience. It can be seen from her narrative that there is difficulty in accepting the need for daily use of medications for hypertension associated with the creation of treatment-related myths. Statements such as believing that it is “an abuse to take all medicines every day” and to stop taking the medicines for thinking “that too much medicine could be harmful” point to a negative experience and possible ignorance or disbelief in the function of the medicines in relation to hypertension.

The symbolic value associated with the drug in this case resulted in the decision to suspend pharmacotherapy on its own and culminated in uncontrolled chronic diseases. In addition, it was observed that several issues induced self-prescription in the patient’s life, such as emotional and age-related aspects and resulted in the use of inappropriate medications such as orphenadrine, loperamide and the use of vitamin supplements without criteria. Therefore, the indissociability between autonomy and the level of adherence to pharmacotherapy is notorious, which emphasizes the role of the patient and the role of the health professional as a mediator of self-management of medicines [15, 16].

Additionally, the case reveals the health risk situation that the patient was exposed to due to the inappropriate and disoriented use of medications. Orphenadrine is generally poorly tolerated by the elderly due to its anticholinergic effects, such as sedation and the likelihood of falling and fracturing and because it can aggravate conditions

of chronic constipation, its use should be done in a rational manner according to the Beers Criterion. Equally, the use of loperamide to treat diarrhea of unknown causes is risky due to the possibility of late diagnosis, prolonged infection or worsening of constipation with spurious diarrhea, in addition to precipitating toxic megacolon in inflammatory bowel disease [17, 18].

The pharmaceutical interventions in the case presented were aimed at advising the patient about treatments in general, about non-pharmacological measures and about the health condition that was the reason for the teleconsultation, moderate acute food diarrhea, which also involved the indication of a medication for a limited time (the repository of gut microbiota). Moderate acute food diarrhea can be considered a minor, self-limited disorder when properly managed. The diagnostic suspicion was based on the clinical history described by the patient and the monitoring, carried out daily, allowed the identification of warning signs for medical referral and verification of the disease prognosis. As the patient's condition was improving and without the presence of severe abdominal pain, fever and signs of dehydration, it was possible to continue with supported self-care, guiding rehydration to avoid changes in electrolytes, adequate food consumption and the use of probiotics to assist in the recovery of the damaged intestinal wall [19].

Case 02:

The second case concerns to Marcia, 61 years old, with diagnosis of arterial hypertension, osteoporosis and gastric disorders. She had hemorrhoid surgery when she was young and reports constipation. She sought pharmacist by teleconsultation reporting discomfort on the right side of the heart after taking calcium carbonate with vitamin D after lunch, daily, for 15 days. When asked about the use of medications, the patient reported that she only used "omeprazole" (pantoprazole 40 mg) when she ingested sodium alendronate 70 mg weekly. Monthly, she used injectable anti-inflammatories for back pain, prescribed by a rheumatologist. She reported that stopped using medicines for hypertension (losartan 50 mg 12/12 hours and hydrochlorothiazide 25 mg), 15 days ago, because she believed that the pressure was too low, due to consume some vegetables that lower the pressure and interpreted that, when blood pressure was normal, it would not be necessary to use antihypertensive drugs after watching a doctor's interview on tv. She measured her blood pressure with her sister's device and was at 170x100 mmHg. It was noted that she used a brand of calcium carbonate indicated by the clerk with a dose lower than that prescribed by the doctor (calcium carbonate 450 mg + vitamin D 400 IU) and which contained an additionally vitamin K. The patient received pharmaceutical guidance on the importance of drug treatment for NCDs, non-pharmacological measures, receiving a table for organizing the use of

drugs, as well as information on access to drugs prescribed by SUS. After the intervention, Marcia informed that she will undergo tests requested by the doctor and declared that she has been using the medications correctly.

Marcia, from the point of view of self-care, was in the phase of contemplation, characterized by the awareness that there is a problem, however, she presented difficulties for the action of change [15]. In this case, the symbolic value of medicines for the treatment of NCDs is noted again, as their meaning is linked to the production of what it represents, health [20]. The symbolic is related to the efficacy of the medication, which was effective beyond what was expected and was, therefore, unnecessary, causing low adherence to hypertension pharmacotherapy.

The lack of adherence to antihypertensive therapy uncontrolled hypertension and may have caused the symptoms of the main complaint, which the patient associated with calcium carbonate.

The case presented PRM classified as administration and patient adherence to treatment, dispensing error and ineffective treatment with an identified cause. The lack of knowledge about issues of access to medicines by the SUS resulted in the taking of inappropriate medication influenced by the practice of “pushing therapy”, as well as unnecessarily burdening the patient. The practice of advertising drugs to convince consumers at the pharmacy counter benefits the pharmaceutical industry, but has numerous negative impacts on consumer health, such as self-medication and the use of the wrong medication [21, 22].

Another medication administration error was related to the use of the proton pump inhibitor, because it was prescribed omeprazole, but she used pantoprazole and the way to use it, which should be continuous, however, she just used it on the day of taking alendronate sodium. The use of proton pump inhibitors with bisphosphonates is common due to gastric irritation that the latter can cause. Postural measures are also recommended to avoid gastrointestinal irritation when using these drugs. However, proton pump inhibitors are more effective with continued use, because their mechanism of action in which the active form binds covalently to sulfhydryl groups of the proton pump cysteines and irreversibly inactivates molecule, taking two to five days for 70% of pump inhibition [23].

The pharmaceutical interventions performed were advising the patient on her drug treatment and non-pharmacological measures, as well as information on access to medications and referral to the attending physician's return after carrying out the requested tests, postponed due to the pandemic.

In both cases, the fact that they are at risk for COVID-19 has generated fear in the demand for health services by patients and has boosted the search for pharmaceutical guidance, pointing out the importance of the bond previously between the pharmacist and the patient and of technology as a tool for health promotion. In the midst of the pandemic, telehealth has proved to be an innovative solution for the provision of health services, adding benefits such as reduced service time, flexibility and easy access to health professionals and savings with travel costs for professionals and patients [11]. The cases presented demonstrated that it is possible to carry out pharmaceutical guidelines through widely accessible messaging applications, avoiding self-medication and motivating the correct use of medicines for NCDs.

CONCLUSION

In Brazil, although quality internet access is uneven, people often use messaging applications and this work has demonstrated that it is possible to carry out pharmacotherapeutic monitoring remotely with this tool, balancing the limitations and possibilities inferred from the process. In both cases, it was possible to verify that the easy access to the pharmaceutical professional, as well as the contact and continuous monitoring of medication users, proved to be fundamental to generate supported self-care, better adherence to pharmacotherapy and self-management of medications and lifestyle habits, to improve the quality of life of the patient with chronic conditions.

DISCLOSURE STATEMENT

All authors report that they do not have any conflicts of interest.

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