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ORIGINAL ARTICLES

Protocol for the implementation of pharmaceutical teleconsultation in a pharmacy school at a public higher education institution

Protocolo de implantação da teleconsulta farmacêutica em farmácia escola de instituição de ensino superior pública

Protocolo para la implantación de la teleconsulta farmacêutica en uma farmácia escuela de uma institución de educación superior pública

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ABSTRACT

The covid-19 pandemic brought challenges to health services which have had to adapt to new realities. The adaptation of pharmaceutical consultations to the remote format has emerged as an alternative way to promote access to health services for patients with restricted access. The aim of this study was to describe a pharmaceutical teleconsultation protocol aimed at patients with asthma. The protocol was divided into an organizational axis, which included the formalization and planning phases of the pharmaceutical teleconsultation, and an operational axis, including the definitions of clinical activities, documents, and instruments for the implementation of the clinical service. A pharmaceutical teleconsultation manual and a pharmaceutical teleconsultation execution flowchart were prepared. This protocol was designed to provide guidance and be an accessible tool for pharmacists in the process of implementing pharmaceutical teleconsultation in health services, enhancing the use of Information and Communication Technologies.

Keywords: Clinical Protocols; Teleconsultation; Telepharmacy; Evidence-Based Pharmacy Practice; Asthma

RESUMO

A pandemia da covid-19 trouxe desafios aos serviços de saúde que tiveram de se adaptar a novas realidades. A adaptação das consultas farmacêuticas para o formato remoto surgiu como uma alternativa para promover o acesso a serviços de saúde para pacientes com acesso restrito. O objetivo deste estudo foi descrever um protocolo de teleconsulta farmacêutica voltado para pacientes com asma. O protocolo foi dividido em um eixo organizacional, com as fases de formalização e planejamento da teleconsulta farmacêutica, e em um eixo operacional com as definições das atividades clínicas, documentos e instrumentos para a implantação do serviço clínico. Foram elaborados um manual da teleconsulta farmacêutica e um fluxograma de execução da teleconsulta farmacêutica. Este protocolo foi concebido com a finalidade de orientar e ser uma ferramenta acessível aos farmacêuticos no processo de implantação da teleconsulta farmacêutica nos serviços de saúde, potencializando o uso das Tecnologias da Informação e Comunicação.

Palavras-chave: Protocolos Clínicos; Teleconsulta; Telefarmácia; Prática Farmacêutica Baseada em Evidências; Asma.

RESUMEN

La pandemia de covid-19 trajo desafíos a los servicios de salud que han tenido que adaptarse a las nuevas realidades. La adaptación de las consultas farmacéuticas al formato remoto surgió como una alternativa para promover el acceso a servicios de salud para pacientes con acceso restringido. El objetivo de este estudio fue describir un protocolo de teleconsulta farmacéutica dirigido a pacientes con asma. El protocolo se dividió en un eje organizativo, con las fases de formalización y planificación de la teleconsulta farmacéutica, y un eje operativo, con las definiciones de actividades clínicas, documentos e instrumentos para la implementación del servicio clínico. Se elaboró un manual de teleconsulta farmacéutica y un diagrama de flujo de ejecución de la teleconsulta farmacéutica. Este protocolo fue creado con el propósito de orientar y ser una herramienta accesible para los farmacéuticos en el proceso de implementación de la teleconsulta farmacéutica en los servicios de salud, potenciando el uso de las Tecnologías de la Información y Comunicación.

Palabras-clave: Protocolos Clínicos; Teleconsulta; Telefarmacia; Práctica Farmacéutica Basada en la Evidencia; Asma.

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INTRODUCTION

According to the Global Initiative for Asthma (GINA), asthma is a heterogeneous disease characterized by chronic inflammation of the airways, defined by a history of respiratory symptoms such as wheezing, dyspnea, retrosternal chest tightness, and coughing (GINA, 2022). One of the main causes of failure in the management of asthma control is poor adherence to pharmacological treatment, which is the result of several factors, such as difficult access and inappropriate use of inhaler devices (Pizzichini *et al.*, 2020). A Brazilian study observed that only 32% of asthma patients adhere to treatment (Cançado *et al.*, 2019).

In Brazil, pharmaceutical care consists of a set of actions and services aimed at health education and promotion, the rational use of medicines, and meeting users' medicinal needs in an integrated, continuous, safe and effective way (Brasil, 2015). For patients with asthma, pharmaceutical care can contribute to improving adherence and optimization of pharmacotherapeutic treatment, with a positive impact on quality of life (Swieczkowski *et al.*, 2016).

With the emergence of the SARS-CoV-2 (covid-19) pandemic, social distancing measures were required, resulting in a number of changes to health services and in the way patients with chronic diseases, such as asthma, were approached. Due to this situation, initiatives to work with Information and Communication Technologies (ICT) in health were reinforced and intensified (Schmitz *et al.*, 2021).

Telepharmacy is considered a subset of telehealth, in which ICTs are used for actions targeting pharmaceutical performance. According to a resolution of the Brazilian Federal Council of Pharmacy (Conselho Federal de Farmácia – CFF), it is conceptualized as the exercise of clinical pharmacy, mediated by ICTs in which the pharmacist and patient are in different physical spaces. In telepharmacy, the pharmacist is responsible for promoting pharmaceutical services individually or collectively, such as health education and pharmacotherapeutic follow-up for the patients, families, and the community (CFF, 2022).

Pharmaceutical teleconsultation, one of the tasks of telepharmacy, is defined as the consultation carried out by the pharmacist in a remote, synchronous manner, enabling interaction with patients, family members, and caregivers. The objectives of teleconsultation are health promotion, protection and recovery, prevention of diseases, and other health problems, resolution of problems related to pharmacotherapy (PRP), and the rational use of medicines and other health technologies (CFF, 2022).

Despite the increasing insertion of pharmaceutical services in health systems, studies that describe the deployment and implementation processes of these services are still infrequent (Santos Junior *et al.*, 2020). The use of protocols based on clinical evidence contributes to the implementation and standardization of new clinical pharmaceutical services, contributing to the qualification of care teams and improving therapeutic efficacy (Nicolini *et al.*, 2017; Vieira *et al.*, 2020).

Therefore, this study aims to describe the process involved in the development of a protocol for the implementation of pharmaceutical teleconsultation for adult patients diagnosed with asthma. The research was carried out within the scope of Primary Care in a municipality in the South region of Brazil, where patients received health services at a Pharmacy School linked to a Public Higher Education Institution (HEI).

METHODS

This is a descriptive study in which the steps taken to adapt, structure and implement the pharmaceutical teleconsultation service were presented through the adaptation of face-to-face pharmaceutical consultation to a remote format. This study is one of the research objectives of the first author's doctoral thesis, conducted in the Graduate Program in Pharmaceutical Assistance (PPGASFAR) at this HEI. The proposal was to apply pharmaceutical teleconsultation in a pharmacy school at the HEI.

This study is part of the project called Pragmatic study of the effectiveness of pharmaceutical telecare in people with asthma (*Estudo pragmático da efetividade do telecuidado farmacêutico em pessoas com asma* – EPETEFAS), approved by the Research Program for Brazil's Unified Health System (Sistema Único de Saúde – SUS) (PPSUS) and carried out in partnership with the HEI and the Municipal Health Department (Secretaria Municipal de Saúde – SMS).

The protocol was developed based on a publication by the Ministry of Health (Ministério da Saúde – MS) on pharmaceutical care in primary health care, which detailed steps related to the implementation/expansion of clinical pharmaceutical services (BRASIL, 2019).

For typification purposes, the steps considered necessary for this protocol were organized into two thematic axes adapted from Nicolini *et al.* (2017) and Vieira *et al.* (2020): Organizational Axis and Operational Axis. This study will address the steps assigned to the operational axis, referring to the structuring and implementation of the pharmaceutical teleconsultation environment.

For the development of clinical activities and workflows, it was necessary to adapt instruments and tools used on a face-to-face basis for remote use or to develop new procedures that facilitate health professionals in the application of teleconsultation.

The research team, composed of pharmacists and PPGASFAR students and professors at the HEI, carried out a search for references in the main primary and secondary sources in the literature referring to the keywords: Asthma, Pharmaceutical Clinical Services, and Remote Consultation.

The literature used in relation to pharmaceutical teleconsultation mainly included the following publications Consulta remota: fundamentos e prática (Schmitz *et al.*, 2021); Cuidado Farmacêutico na Atenção Básica, where Booklet 1 covered pharmaceutical services and Booklet 2 focused on training for implementation (Brasil, 2015), and the recently published CFF Resolution No. 727, which regulates Telepharmacy in Brazil (CFF, 2022).

The EPETEFAS, in which the present study is inserted, complies with the ethical precepts of Resolution No. 466/2012 (Brasil, 2013), and was submitted and approved by the Research Ethics Committee of the HEI and SMS.

RESULTS

The protocol for the implementation of pharmaceutical teleconsultation was carried out in several stages, divided into two main axes. The first is the Organizational Axis, which included the processes of formalizing and planning the implementation of pharmaceutical teleconsultation. The second was the Operational Axis, which addressed structuring and adequacy of pharmaceutical teleconsultation, as shown in Figure 1.

The study was the result of a partnership between the HEI and SMS, while the formalization and planning phases of this new clinical pharmaceutical service were developed by a management team composed of the coordinators of the two partner institutions. In the awareness and agreement stages weekly meetings with other professionals involved in the services were conducted. Participants included pharmacists from the HEI Pharmacy School and pharmacists and other primary health care professionals in the municipality and activities relating to presentation and construction of the proposals took place

The same team proceeded with the situational diagnosis. The profile of the population served by the HEI Pharmacy School was evaluated, as well as the mapping of clinical activities and work processes already carried out in the Pharmacy School.

In the structural phase of pharmaceutical teleconsultation, included in the operational axis of this protocol, the steps of defining the target audience, workflows and clinical activities were carried out, as well as the instruments and procedures that would be applied to the population. Table 1 presents the instruments and procedures adapted and/or developed for the application of pharmaceutical teleconsultation.

The service form used in face-to-face consultations was adapted for use via teleconsultation. Finally, the new service form was subdivided into five parts:

1. patient identification, with the collection of general data such as name, age, gender, weight, height, BMI, and contacts;
2. socioeconomic data, such as housing, schooling, occupation, and companion data;
3. patient profile in relation to asthma, data on smoking, physical activity and exercise, presence of other diseases and/or comorbidities, time since asthma diagnosis, hospitalizations, and use of other health services due to asthma, and Asthma Control Test (ACT) score;
4. pharmacotherapeutic profile, with drug data for the treatment of asthma and other diseases and/or comorbidities, drug, dose/frequency, indication, route of administration, origin of prescription and duration of use, data on possible adverse drug events (ADE) and vaccines, and data on the assessment of the ability to administer metered-dose inhalers (MDI);
5. care plan, with the identification of the PRPs, their causes, and the interventions to be carried out. Other data such as the name of the pharmacist responsible for the care, consultation time, and date and time of the next teleconsultation were entered in this new form.

Another document adapted from the pharmaceutical consultation carried out at the HEI Pharmacy School, for use in remote care, was the instrument used to assess patients' inhalation technique. In it, the ability of patients to administer both pressurized and powdered inhaler devices is observed, as well as handling of spacers, when used.

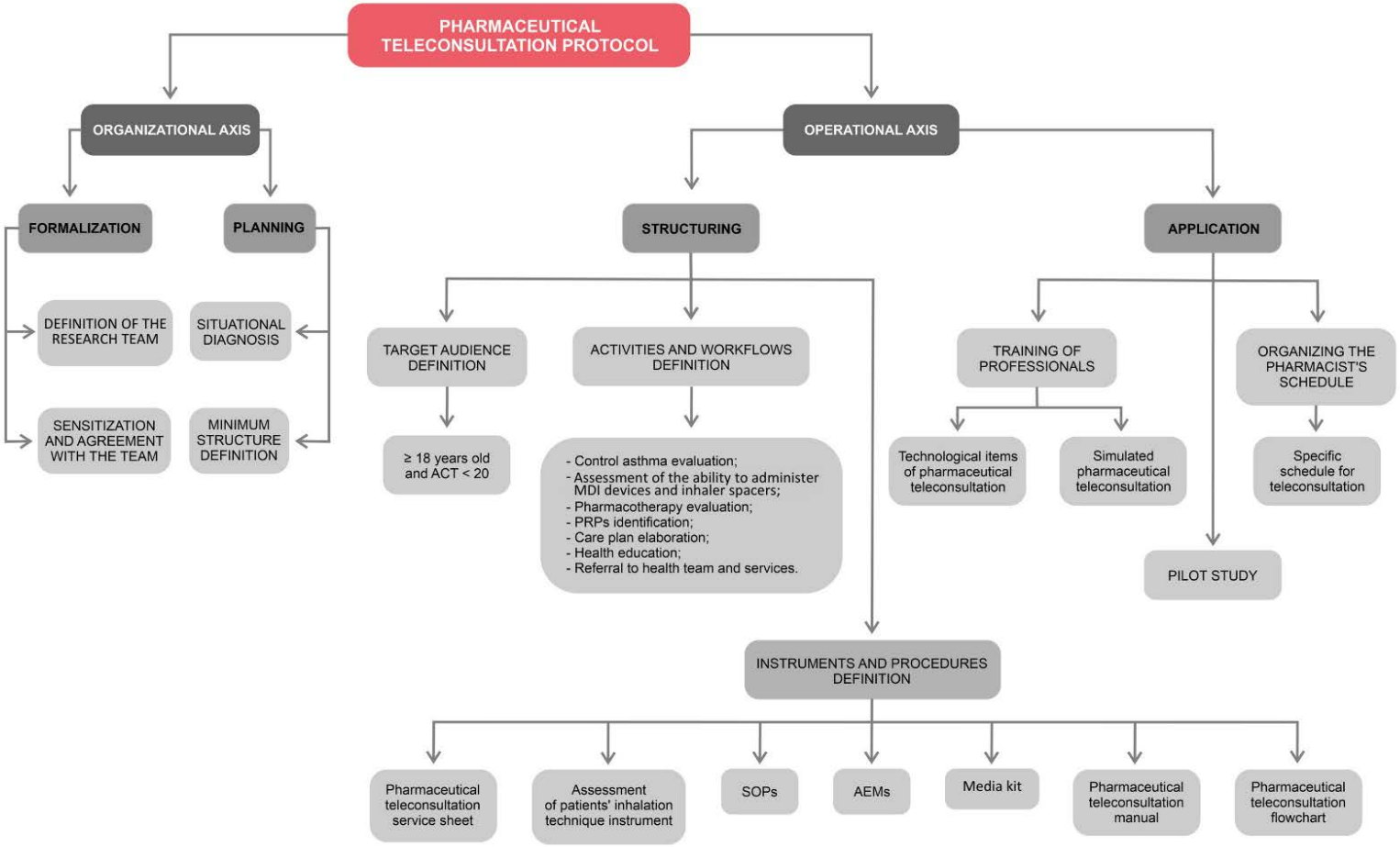

Figure 1 – Flowchart of the pharmaceutical teleconsultation protocols
ACT: asthma control test; AEM: audiovisual educational material; MDI: metered-dose inhaler; PRP: problem related to pharmacotherapy; SOP: standard operating procedure
Source: prepared by the authors.

Table 1 - Documents adapted and developed for the application of pharmaceutical teleconsultation

Type	Document		Reference Used
AEM	1.	How to use your MDI device	Alves-Zarpelon *et al*. (2022)
	2.	How to make your handmade spacer	
	3.	How to use your MDI device with a homemade spacer	
	4.	Cleaning your handmade spacer	
	5.	How to use your MDI device with a commercial spacer	
	6.	Cleaning your commercial spacer	
Card	1.	ACT	Nathan *et al*. (2004); Roxo *et al.* (2010)
	2.	Teleconsultation environment conditions checklist	Porto Alegre; Universidade Federal do Rio Grande do Sul (2020); Schmitz *et al*. (2021)
	3.	Pharmaceutical teleconsultation manual	Porto Alegre; Universidade Federal do Rio Grande do Sul (2020); Schmitz *et al*. (2021); CFF (2022)
Sheet	1.	ACT	Nathan *et al*. (2004); Roxo *et al.* (2010)
	2.	AQLQ	Juniper *et al*. (1992); Silva; Silva, (2007)
	3.	Service – Pharmaceutical teleconsultation	Brasil (2015, 2019); CFF (2022)
	4.	Assessment of the ability to administer MDI devices	Sand (2017)
SOP	1.	Teleconsultation scheduling	Alves-Zarpelon (2023)
	2.	Teleconsultation confirmation	Alves-Zarpelon (2023)
	3.	Pre-teleconsultation checklist	Schmitz *et al*. (2021)
	4.	Pharmaceutical teleconsultation	Schmitz *et al*. (2021); CFF (2022)
	5.	ACT	Nathan *et al*. (2004); Roxo *et al.* (2010)
	6.	Urgent and emergency situations	Porto Alegre; Universidade Federal do Rio Grande do Sul (2020); Schmitz *et al*. (2021)
	7.	Assessment of the ability to administer MDI's and inhaler spacers	Sand (2017)

ACT: asthma control test; AEM: audiovisual educational material; AQLQ: asthma quality of life questionnaire; CFF: Brazilian Federal Council of Pharmacy; MDI: metered-dose inhaler; SOP: standard operating procedure.
Source: Prepared by the authors.

The research team of this study developed seven new standard operating procedures (SOPs) for the new clinical service flows. The SOP model previously created by the team was used for the face-to-face workflows of the HEI Pharmacy School.

The SOPs were numbered and contained information about the activity, issue and review dates, objective, material necessary for the activity, order of steps and the professional responsible for each of them, observations relevant to the activity, and annexes and references, where necessary. All SOPs were prepared, reviewed, and approved by different members of the research team, with this information subsequently inserted at the end of each SOP.

For health education activities with the patient, audiovisual educational materials (AEM) were designed and created with the objective of providing guidance on the use of inhaler devices and spacers.

As a target audience, adult patients (≥ 18 years old), with a confirmed medical diagnosis of asthma and coming from care at the primary care health units in the municipality were considered. During the consultation, the health professional was required to apply the ACT and calculate the score.

Patients with uncontrolled asthma (ACT<20 points), referred via the specialized consultations regulation system of the SUS were then referred to the clinical pharmaceutical service of the HEI Pharmacy School.

The pharmacist was required to perform screening and verify the need for face-to-face consultation or teleconsultation, as shown in Figure 2.

The steps developed by the research team to be carried out during the pharmaceutical teleconsultation in this protocol and to be applied according to the SOPs and materials prepared are as follows:

1. Scheduling and confirmation of teleconsultation: Carried out according to the availability of the patient, via telephone contact. Confirmation sent via message app, with scheduling data and guidelines for conducting the teleconsultation;
2. Verification of the teleconsultation environment: The pharmacist responsible for the service applies the checklist to the adequacy of the physical space intended for the teleconsultation;
3. Reception: Pharmacist listening to the patient, focusing on their main complaints and requirements. In the first teleconsultation, the pharmacist explains the operation and objectives of the teleconsultation to the patient prior to starting reception;
4. Information search: Collected through the care form and obtained via medical records, prescriptions, and the patient and/or caregiver during the care;
5. ACT application: The pharmacist applies the ACT instrument during all scheduled teleconsultations, assessing the need for intervention and referral according to the score;
6. Assessment of MDIs administration ability: Performed according to a form adapted for remote care and SOP;
7. Identification of PRPs: Identified according to information obtained in the fourth step. The PRPs refer to the selection and prescription of medications, medication administration and adherence, and quality of medications.
8. Care plan: Action plans to address PRPs with interventions developed alongside the patient, as well as the prevention of new complications and the establishment of treatment goals and objectives. In this step, it may be necessary to refer the patient to other professionals and health services, such as urgency/emergency, as well as the periodic discussion of cases with other professionals from the HEI Pharmacy School.
9. Follow-up teleconsultation: Scheduling of the follow-up consultation, clarifying doubts about the care plan and agreements for the next appointment according to the needs of each patient. For re-consultations, the pharmacist checks pending data from previous teleconsultations, recording changes in the therapeutic plan and in habits and complications that the patient may report in the last few days after the last teleconsultation.

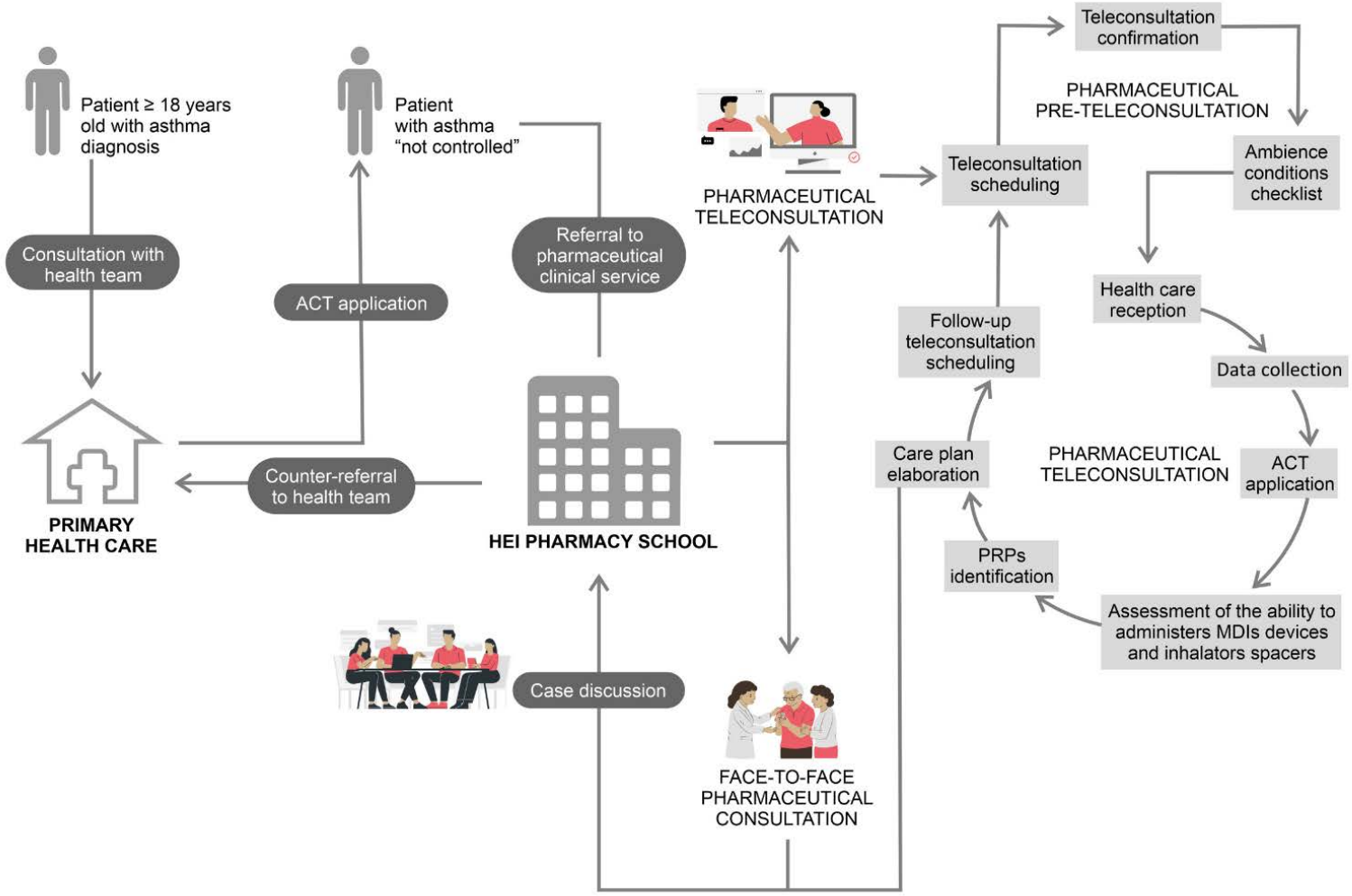

Figure 2 – Pharmaceutical teleconsultation execution steps
ACT: asthma control test; MDI: metered-dose inhaler; PRP: problem related to pharmacotherapy.
Source: prepared by the authors.

To facilitate the access and application of the pharmaceutical teleconsultation processes, educational materials were prepared, such as ACT application cards and the teleconsultation environment conditions checklist, a teleconsultation manual for the pharmacist. These materials were essential for the training of professionals.

Pharmacists and other professionals were trained in the technological items of pharmaceutical teleconsultation. Training totaling 20 hours was carried out, covering application of the ACT, the inhalation technique assessment tool, and pharmaceutical teleconsultation.

Simulated pharmaceutical teleconsultations were conducted with pharmacists from the service and volunteer pharmacy graduates playing the role of patients with asthma. The performance of pharmacists was evaluated by the team conducting the study, with feedback being provided to clear up doubts and address any difficulties with teleconsultation items.

During scheduling a research team was assigned to the daily activities related to pharmaceutical teleconsultation. Teleconsultations were scheduled to last 60 minutes with a break of 15 minutes between appointments.

To finalize the protocol on the adequacy of the teleconsultation, a pilot study was carried out that made it possible to finalize the protocol in the data publication phase.

DISCUSSION

To define the stages of a process for the development and implementation of a new clinical pharmaceutical service, it is crucial to adopt evidence-based protocols (Vieira *et al.*, 2020). The steps for the implementation of pharmaceutical teleconsultation in this protocol proposal were defined in two thematic axes, including organizational and operational characteristics, with the objective of standardizing a clinical service as well as promoting the training of the health team and greater safety in implementation.

The creation of a core team for the implementation of pharmaceutical teleconsultation at the HEI Pharmacy School which would serve as a point of reference for contact with other professionals and health services was presented. A study on the perception of pharmacists regarding the implementation of pharmaceutical care in primary health care emphasizes the importance not only of the pharmacist, but also of other health professionals, stressing that the implementation of the pharmaceutical clinical service depends on the work carried out by the entire primary health care team (D'Andrea; Wagner; Schveitzer, 2022). In many cases this can become a challenge for this core team.

Santos Júnior *et al.* (2018) identified the barriers to the implementation of pharmaceutical clinical services as perceived by pharmacists and managers, highlighting that interprofessional collaboration stimulates knowledge and awareness of the entire team involved, subsequently reducing resistance to the implementation of a new service. The team conducting the present study promoted weekly meetings and workshops with the stakeholders and services involved, working together on the proposals for the development of this protocol.

The implementation of pharmaceutical teleconsultation, as well as conventional pharmaceutical consultation, derives from the development of SOPs, specific instruments, and standardized protocols. This is especially true within the scope of primary health care, in which there is a need for better management, ensuring methodological rigor and guaranteeing the quality of the data collected (Vieira *et al.*, 2020). Consequently, there was a need to create new workflows with the development of at least ten new SOPs to be applied as teaching tools in professional training and continuing education (Pereira *et al.*, 2017).

Adult patients with asthma were defined as the target audience for implementation. According to the Clinical Protocol and Therapeutic Guidelines for Asthma (Brasil, 2021), treatment for patients with asthma aims to achieve and maintain control of the disease. In this study, we chose to use the ACT to assess asthma

control and monitor treatment applied at consultations with a professional from the municipality's primary care service and during pharmaceutical teleconsultations.

The ACT was developed by Nathan *et al.* (2004) and adapted and validated for use in Brazil by Roxo *et al.* (2010). The instrument can be applied by an interviewer or by the patient and assesses the patient's level of asthma control in the last four weeks. In this service, the pharmacist was required to apply the ACT during the teleconsultation, with the aid of the ACT Card, developed to facilitate remote application of the test.

One of the main causes of failure in the management of asthma control is the low adherence to pharmacological treatment, caused by several factors, such as difficulty of access and inadequate use of IDs (Pizzichini *et al.*, 2020). One of the clinical activities proposed in the protocol is the assessment of the ability to administer inhalers devices and the use of spacers during teleconsultation. To do this, the research team adapted from Sand (2017) a questionnaire about the use of MDI devices and spacers, and they sent simulated video calls of pharmaceutical teleconsultations with the use of this tool, for health professionals to evaluate the applicability of the instrument.

An implementation study that used a similar tool, under the same conditions, observed that the most frequent failures among patients were those related to the hygiene of devices, oral hygiene after use of corticosteroids, and steps related to expiration and aspiration of the medication (Gossenheimer *et al.*, 2021).

Due to difficulties patients may experience in the administration of inhaler devices and in the use of spacers there was a need to produce educational materials mediated by ICTs, for use during or after teleconsultation.

Six AEMs were developed (Alves-Zarpelon *et al.*, 2022). These videos are available for users to access on the YouTube platform, on the HEI's School of Pharmacy channel, as well as four AEMs that are available on the MS's link to Care Lines for patients with Asthma (Brasil, 2022a).

For the execution of the pharmaceutical teleconsultation, a flowchart consisting of two phases was developed: the pre-consultation phase consisting of four stages, and the teleconsultation phase which had six steps. The steps suggested in this study were similar to those of Almeida *et al.* (2021), who described the adaptation of face-to-face consultations to teleconsultations in a HEI in northeastern Brazil, including steps for scheduling consultations (scheduling and confirmation), data collection, evaluation of PRPs, monitoring of problems, care plan, information and advice, application of questionnaires regarding the target audience's illness, referrals, and teleconsultation rescheduling.

An important aspect of the pre-teleconsultation included in this protocol was an assessment of the environment. A specific card, in a checklist format, was created for this procedure, with nine steps to be examined prior to the start of the teleconsultation. It is the duty of the pharmacist providing the service to establish an environment that enables responsible practice of teleconsultation (CFF, 2022).

It is crucial to evaluate the physical space where the teleconsultation takes place. It should be a private environment with a neutral wall background. The pharmacist should have proper identification (badge). Furthermore, equipment quality should be verified. This includes framing of the computer screen and use of appropriate headphones. Finally, the pharmacist should have access to data such as the geographical location of the patient for emergency situations and confirmation of the access link to initiate care (Porto Alegre; Universidade Federal do Rio Grande do Sul, 2020; Schmitz *et al.*, 2021).

Video calls were the main communication instrument of this protocol and considered the best method for diagnosis and decision making in telehealth services (Reis *et al.*, 2021). Pharmacists are responsible for promoting services directly aimed at the patient, family, and community. In order to promote care, one of the pharmacists' duties is the search for strategies that facilitate the patient's learning process, through educational actions (CFF, 2022; Reis *et al.*, 2021).

Telemedicine is authorized on an emergency basis according to Act 13,898 of April 15, 2020 (Brasil, 2020). Recently, the government sanctioned Act 14,510/2022 that defines and regulates the practice of telemedicine in Brazil (Brasil, 2022b).

In July 2022, the CFF defined and regulated telepharmacy at all levels of healthcare and throughout the Brazilian territory, pursuant to Resolution No. 727 of June 30, 2022 (CFF, 2022). The regulatory framework resulted in the need to develop protocols that could organize the provision of services for these demands.

Resolution 476 of the CFF on May 28, 2008, regulates the registration, storage, and handling of information in pharmaceutical practice in health records. This regulation guarantees how the data and images of patients must be preserved, complying with legal standards relevant to custody, handling, integrity, veracity, confidentiality, privacy, irrefutability, and guarantee of professional secrecy of the information (CFF, 2008).

Catapan, Willemann and Calvo (2021) compared the structure and work processes of Primary Health Care for the implementation of medical teleconsultation in Brazil. They highlighted that documents used for remote treatment should comply with provisions in the General Data Protection Act (Brasil, 2018) on the handling of personal data in digital media.

The process of storing and securing the data obtained during the teleconsultation can be considered a limiting factor in the process. There is a growing need to adapt existing platforms in order to minimize this fragility (Soares *et al.*, 2020).

Pharmaceutical teleconsultation is emerging as an alternative for maintaining individualized care in health services where there are barriers to accessing face-to-face care. Pharmaceutical teleconsultation appears to contribute to the screening of chronic patients in the search for the best drug treatment (Almeida *et al.*, 2021).

CONCLUSION

This study presented a proposal to implement pharmaceutical teleconsultation through an elaborate protocol, in which a service itinerary and care processes were created. This process describes the service flows including the definition of the target audience and the clinical activities to be carried out.

This implementation protocol was developed to care for patients with asthma in secondary care. However, the protocol aims to be an accessible, adaptable and reproducible tool that can be applied to other target audiences and other challenges within pharmaceutical services. Furthermore, its application strengthens the use of ICTs. It is important to highlight that the proposal for this implementation assumes the active participation of the care team and managers' understanding of the importance of implementing the service.

The application of this protocol can contribute to the implementation of this new technology – pharmaceutical teleconsultation – as an alternative mode of care that expands users' access to health services. Nevertheless, the protocol may particularly influence the quality of pharmaceutical care, as well as the complementarity of care and well-being of people with asthma.

Finally, the protocols developed can be considered instruments for change, standardization, and democratization of health care. The data obtained through these instruments may provide a scientific basis to improve decision-making and reformulate other protocols, guidelines, and public policies for health ICTs that go beyond pharmacist's remote work.

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