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Barriers and facilitators to the implementation of HIV pre-exposure prophylaxis in primary health care

Barreiras e facilitadores à implementação da profilaxia pré-exposição ao HIV na Atenção Primária à Saúde

Barreras y facilitadores para la implementación de la profilaxis preexposición al VIH en la atención primaria de salud

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ABSTRACT

Objective: To analyze the barriers and facilitators to the implementation of Pre-Exposure Prophylaxis (PrEP) for the Human Immunodeficiency Virus (HIV) through the experiences of Primary Healthcare workers.

Method: Qualitative study with semi-structured interviews conducted between April and July 2022 with 16 healthcare professionals working in Primary Health Care Units in the city of São Paulo, Brazil. The data were fully transcribed and analyzed using content analysis, supported by the webQDA® software and theoretical grounding based on vulnerability in health.

Results: Two categories emerged related to the barriers and facilitators of the implementation of Pre-Exposure Prophylaxis. Among the barriers, work overload, structural limitations, and the stigma associated with the HIV were highlighted. Sensitized professionals and continuing education were identified as decisive factors in expanding access to the strategy. Facilitators included multidisciplinary work, institutional training, engagement with users, and coordination with programs aimed at the lesbian, gay, bisexual, and transgender population.

Conclusion: Pre-Exposure Prophylaxis is advancing in primary care but faces obstacles. Its implementation requires qualified teams and inclusive practices in the Unified Health System, capable of expanding access, adherence, and monitoring of users, especially those most vulnerable to HIV.

Descriptors: Primary Health Care; Nursing; HIV; Health Personnel; Disease Prevention; PreExposure Prophylaxis.

RESUMO

Objetivo: Analisar, por meio das experiências vivenciadas por trabalhadores da Atenção Primária à Saúde, as barreiras e os facilitadores para a implementação da profilaxia pré-exposição (PrEP) ao Vírus da Imunodeficiência Humana (HIV).

Método: Estudo qualitativo, com entrevistas semiestruturadas realizadas entre abril e julho de 2022 com 16 profissionais de saúde atuantes em Unidades Básicas de Saúde do município de São Paulo, Brasil. Os dados foram transcritos na íntegra e analisados pela técnica de análise de conteúdo, com apoio do software webQDA® e sustentação teórica baseada na vulnerabilidade em saúde.

Resultados: Duas categorias relacionadas à implementação da profilaxia pré-exposição foram elaboradas: as barreiras e os facilitadores. Entre as barreiras, evidenciaram-se a sobrecarga de trabalho, as limitações estruturais e o estigma associado ao HIV. Os profissionais sensibilizados e a educação permanente foram apontados como fatores decisivos para ampliar o acesso à estratégia da PrEP. Como facilitadores, destacaram-se a atuação multiprofissional, os treinamentos institucionais, o vínculo com os usuários e a articulação com programas voltados à população lésbica, gay, bissexual e transgênero.

Conclusão: A profilaxia pré-exposição avança na Atenção Primária à Saúde, mas ainda enfrenta entraves para sua implementação. Sua efetivação depende de equipes qualificadas e da adoção de práticas inclusivas no Sistema Único de Saúde, capazes de ampliar o acesso, à adesão e o acompanhamento dos usuários, especialmente daqueles em maior vulnerabilidade ao HIV.

Descritores: Atenção Primária à Saúde; Enfermagem; HIV; Pessoal de Saúde; Prevenção de Doenças; Profilaxia Pré-Exposição.

RESUMEN

Objetivo: Analizar las barreras y facilitadores para la implementación de la profilaxis previa a la exposición (PrEP) al virus de la inmunodeficiencia humana (VIH) a través de las experiencias vividas por los trabajadores de la atención primaria de salud.

Método: Estudio cualitativo, con entrevistas semiestructuradas realizadas entre abril y julio de 2022 con 16 profesionales de la salud que actúan en Unidades Básicas de Salud del municipio de São Paulo, Brasil. Los datos fueron transcritos en su totalidad y analizados mediante la técnica de análisis de contenido, con apoyo del software webQDA® y una fundamentación teórica basada en la vulnerabilidad en la salud.

Resultados: Surgieron dos categorías relacionadas con las barreras y los facilitadores de la implementación de la profilaxis preexposición. Entre las barreras, se destacaron la sobrecarga laboral, las limitaciones estructurales y el estigma asociado al VIH. Se identificaron profesionales sensibilizados y la formación continua como factores decisivos para ampliar el acceso a la estrategia. Entre los facilitadores se incluyeron el trabajo multidisciplinario, la capacitación institucional, la participación de los usuarios y la coordinación con programas dirigidos a la población lesbiana, gay, bisexual y transgénero.

Conclusión: La profilaxis preexposición avanza en la atención primaria, pero se enfrenta a obstáculos. Su implementación requiere equipos cualificados y prácticas inclusivas en el Sistema Único de Salud, capaces de ampliar el acceso, la adherencia y el seguimiento de los usuarios, especialmente de los más vulnerables al VIH.

Descriptores: Primary Health Care; Enfermería; VIH; Personal de Salud; Prevención de Enfermedades; Profilaxis Pre-Exposición.

INTRODUCTION

Since the first cases of infection with the Human Immunodeficiency Virus (HIV) in the late 1970s, the HIV epidemic has caused more than 41 million deaths, remaining a significant global health problem. In 2023, it was estimated that 1.3 million people were infected with HIV and about 40 million were living with the virus worldwide, of whom 30 million were on treatment – a number still below the global target set for 2025 of 34 million⁽¹⁾.

The improvement in strategies to combat the epidemic is recognized, including the expansion of diagnosis through rapid tests and treatment with antiretroviral therapy. However, barriers to preventing new infections remain an obstacle to be overcome. The use of antiretroviral drugs in HIV prophylaxis, such as pre-exposure prophylaxis (PrEP), has proven highly effective in preventing infection^(2,3), and expanding access to it is a challenge to be faced⁽⁴⁾, particularly in Primary Health Care (PHC)^(5,6).

International experiences have demonstrated the potential of implementing PrEP in primary health care. In Canada, public policies with financial subsidies have ensured greater access to prophylaxis for people in vulnerable situation⁽⁷⁾. In Zambia, a national campaign involving different sectors – including governments, regulatory agencies and civil society organizations – promoted the expansion of access to PrEP through eligibility criteria based on

health vulnerabilities and training of primary health care teams, with positive results in reducing infections⁽⁸⁾.

In Brazil, PrEP was incorporated into the Unified Health System (SUS) in 2017, initially in Reference Centers and Specialized Care Services for Sexually Transmitted Infections (STIs) and Acquired Immunodeficiency Syndrome (AIDS). This offer expanded to various points in the Health Care Network (RAS), including Primary Health Care (PHC), from 2024 onwards. The implementation of PrEP in PHC broadens the reach of prevention actions, especially among groups that traditionally face barriers to accessing health services, such as vulnerable populations, people living in remote or marginalized areas, lesbian, gay, bisexual, transgender and other gender identities and sexual orientations (LGBT+) people^(9,10).

The implementation of PrEP in primary health care represents an innovative and highly relevant strategy in the context of HIV prevention, since primary health care is the coordinating center for health care in the health care network. With the provision of PrEP in the routine of Basic Health Units (UBS), there is a significant reduction in geographical, institutional and social barriers that hinder access to specialized care⁽¹⁰⁾.

However, the incorporation of PrEP into the routine of primary health care services in Brazil still faces significant obstacles. Evidence suggests that the scarcity of specific training for professionals, the lack of knowledge about eligibility criteria, the persistent stigma surrounding the population using PrEP, as well as organizational and structural limitations, have hindered the consolidation of this strategy in the territories^(11,12).

Understanding the experiences of primary health care workers in the PrEP implementation process is essential to identify barriers and facilitators and propose concrete solutions that strengthen care, promote access and reduce health inequities, especially with regard to vulnerable people⁽¹³⁾. However, there is a scarcity of studies that analyze implementation processes, and few investigate the perspective of health workers in specific contexts.

In this regard, a systematic review⁽¹⁴⁾ that investigated barriers and facilitators to clinical behavior change in primary health care showed that insufficient knowledge, professional insecurity, work overload, time constraints, weaknesses in training and lack of guidelines and orientations directly influence the adoption of new practices. The findings reinforce the importance of understanding the perspective of workers in the local contexts of PrEP implementation.

Thus, the justification of the present study is the need to deepen the understanding of the challenges and possibilities of incorporating PrEP into primary health care services (APS)

– as this process is recent in Brazil – and helps clarifying the knowledge gaps on this topic. Its results can contribute to the advancement of knowledge on the subject and to the development of concrete practices more aligned with local realities and the health needs of users and communities, in order to expand people's access to PrEP and strengthen the fight against HIV in primary health care⁽¹⁰⁾. Therefore, the present study aims to analyze, through the experiences lived by primary health care workers, the barriers and facilitators for the implementation of PrEP.

METHOD

Study type

This is a qualitative study that took vulnerability in health as its conceptual perspective⁽¹⁵⁾. The research was conducted and reported in accordance to the recommendations of the Consolidated Criteria for Reporting Qualitative Research (COREQ)⁽¹⁶⁾.

Location and period of data collection.

The research was conducted in the municipality of São Paulo, which has offered PrEP in the SUS since 2018 and stands out for concentrating the largest number of users of this prophylaxis in Brazil⁽¹⁷⁾. The Municipal Health Department has intensified training aimed especially at nurses, pharmacists and doctors, with a view to expanding antiretroviral medication in Brazil, at different points in the RAS. During the data collection period (from April to July 2022), the municipality had 26 services of the Specialized Municipal Network (RME) in STIs/AIDS that offered PrEP, in addition to 21 UBS that were a reference in hormone therapy for transgender people.

Participants

In the municipality of São Paulo, the UBS (Basic Health Units) have a professional who acts as a manager and a group of other professionals focused on direct and/or indirect care, with variations in the number of professional categories and positions depending on the care model (traditional, Family Health Strategy, mixed or other configurations), management (direct or indirect) and the number of people or families registered.

During the data collection period, 21 primary health care units (UBS) in the municipality offered PrEP prescriptions, and all were considered eligible for the study. Initial contact was made via email to the unit managers, presenting the research objectives and inviting them to participate. After the unit expressed interest, the managers indicated the professionals

responsible for prescribing PrEP, who were then contacted individually by the researchers for a detailed presentation of the study and a formal invitation to participate. Of the 21 UBS contacted, 12 units responded indicating interest, while the others did not return the contact.

In the participating units, healthcare workers directly involved in prescribing PrEP were individually invited, regardless of their professional category, provided they met the inclusion criteria: actively prescribing PrEP and possessing specific training for this activity. Workers who were on vacation or sick leave during the data collection period were excluded.

In the end, 16 healthcare professionals participated. In two units, two professionals were interviewed; in another unit, three professionals; and in the remaining units, one professional per service, according to local organization and worker availability.

The number of participants was determined based on the adherence of eligible professionals in the units who agreed to participate in the study. All professionals who met the inclusion criteria and were available during the data collection period were interviewed. During the data analysis, carried out after the interviews were completed, thematic saturation was observed, characterized by the recurrence of content and the absence of new elements relevant to the constructed categories. The finding of saturation was consensual among the researchers responsible for the analysis⁽¹⁸⁾.

Data collection instrument

For data collection, the instrument used was developed by the authors, based on the literature that discusses the subject matter⁽¹⁹⁾. It was initially implemented in a pilot study, with the intention of improving it. The results found in this stage were not considered for the present research; however, they allowed adjustments to the instrument and greater mastery and preparation of the researchers for data collection.

The final instrument consisted of two parts. The first part focused on characterizing the participants, including sociodemographic and professional variables such as age, gender, profession, position, education, years of education, employment status, and length of time working in primary health care and at the health unit. The second part consisted of a semi-structured questionnaire with 13 open-ended questions focused on work practices in primary health care and the implementation of PrEP in the context of the primary health care unit, such as: What factors do you consider to facilitate the provision of PrEP at the health unit? What are the main difficulties in implementing PrEP in the service? What is the patient flow like at the unit for users taking PrEP?

Data collection

Initially, the research was presented to the managers of the Primary Care Coordination of the municipality, who indicated the primary health care units eligible for the study. Subsequently, an invitation was sent by email to the managers, with information about the research. Given the lack of success through this channel, telephone contact was made.

The health professionals who expressed their interest in participating in the research received, by email, the Informed Consent Form, created using a research management application (Google Forms®). After acceptance and prior scheduling, semi-structured interviews⁽²⁰⁾, lasting approximately 30 minutes, were recorded in environments without the involvement of external people, using a videoconferencing system (Google Meet®). No additional field notes were prepared for the recordings made during the interviews.

The interviews were conducted by the first two authors, both female and fourth-year undergraduate nursing students, and by the last author, a female nurse and faculty member with expertise in planning and conducting research on HIV. The research team had no prior relationship with the participants before the start of the study.

Data analysis

The interviews were transcribed using webQDA®, a qualitative data analysis software. To guarantee the anonymity of the participants, an alphanumeric code was assigned, consisting of the letter "P", followed by a digit and the initials of the professional category (Enf = Nursing; Farm = Pharmacy; Med = Medicine).

The analysis of the generated data was carried out through content analysis⁽²¹⁾, involving the stages of pre-analysis, coding and categorization. In the pre-analysis stage, the material was organized and exhaustively read, with a view to familiarizing oneself with the content. An inductive approach was adopted, seeking to identify barriers and facilitators that influence the implementation of PrEP in PHC. In the coding stage, the elements of the text were grouped according to their meanings, with codes assigned to the excerpts. For example, statements that evidenced weaknesses in the training of professionals were coded and grouped in the subcategory "Qualification of professionals", forming the category "Barriers to the implementation of PrEP in the PHC". As an example: "This training is offered from time to time. It is not offered at the speed we need. So, it is very difficult to participate in it. Including because it is online, because it also depends on a matter of personal organization of each one.

(P11Farm)". The same process was applied to the construction of the category "Facilitators for the implementation of PrEP in the Primary Health Care Unit".

The data analysis was performed independently by three researchers. Subsequently, the codifications were compared and discussed in consensus meetings to ensure methodological rigor, resulting in two central categories (Table 1).

The study took as its conceptual perspective vulnerability in health understood as individual and collective contexts (social and programmatic) that determine the acquisition of HIV infection⁽¹⁵⁾. Thus, the barriers and facilitators for the implementation of PrEP identified from the experiences lived by primary health care workers constitute elements for the analysis of vulnerability to HIV.

Table 1 – Representation of categories, subcategories and representation of participants. São Paulo, SP, Brazil, 2022

Categories	Subcategories
Barriers to implementing PrEP in primary health care units	Impact of the Covid-19 pandemic on PrEP (N = 7) Socioeconomic conditions and lack of knowledge among users (N = 10) Qualification of professionals (lack of knowledge, lack of training, prejudice) (N = 15) Management of services (PrEP promotion, physical structure of the institution, scheduling, waiting and service times, organization of the service flow, staff sizing and turnover) (N = 33)
Facilitators for the implementation of PrEP in UBS	Territory coverage (N = 12) Service flow (N = 12) Nursing participation (N = 4) User participation (literacy) (N = 5) Care provided by professionals (private, contracted, teamwork and multidisciplinary) (N = 24) Management of services (service time, accessibility, physical structure of the institution, management support) (N = 12) Qualification of professionals (knowledge, training) (N = 14) Information on PrEP (hormone therapy and dissemination) (N = 12)

Note: The values presented correspond to the number of times the subcategory was represented by a participant. Since the same participant may have contributed more than once to the same subcategory, the sum of the frequencies may exceed the total number of participants in the study.

Ethical considerations

The study was conducted in accordance with Resolution No. 466/2012 of the National Health Council and approved by the Research Ethics Committees of the School of Nursing of Universidade de São Paulo (Protocol No. 5.056.136, of 10/22/2021) and the Municipal Health

Department of São Paulo (Protocol No. 096.854, of 11/10/2021), under the Certificate of Presentation for Ethical Appraisal (CAAE) No. 47086621.7.3001.0086.

RESULTS

Sixteen professionals from different fields of study participated in this research: Nursing (N = 9), Pharmacy (N = 4), and Medicine (N = 3). All had employment contracts governed by the Consolidation of Labor Laws (CLT). Most of them were women (12) aged 36-49 years (6), with training time between eight and 22 years (6), with experience in Primary Health Care between eight and 13 years (9) and in the current Primary Health Care Unit (UBS) from one to four years (11). The analysis of the qualitative *corpus* from the interviews allowed the construction of two categories: barriers to the implementation of PrEP in the UBS and facilitators for the implementation of PrEP in the UBS.

Barriers to implementing PrEP in primary health care units

Several barriers were cited, including the expansion of procedures in primary health care following the offering of PrEP and the implementation that occurred precisely in the midst of the Covid-19 pandemic, which impacted the full operationalization of the service.

[...] the other routines of primary care did not stop with the pandemic. So, we continue with the COVID campaign, the pediatric COVID campaign, the school health program, smoking cessation, the diabetes program, prenatal care, and oral health. So, in fact, the primary health care unit added this additional program. So, we create a new line of care in the unit, and that is the biggest challenge. (P14Enf)

Although the training sessions were also seen as facilitators of the implementation of PrEP, some professionals reported that some of their colleagues have inaccurate information about prophylaxis and that others feel insecure, afraid, and unprepared to prescribe PrEP.

I realize that some professionals feel insecure due to a lack of experience with the medication. It's not a medication we use every day. It's not a medication we learn about in medical school. What I notice [...] is that sometimes the doctor fails to prescribe it, or makes the patient return one or two extra times, simply out of insecurity, out of fear of prescribing the medication, of not knowing how to deal with adverse effects, of the patient abandoning the treatment for any reason and not returning. (P9Med)

Another observation made is that, at times, training and capacity-building programs are geared only towards professional categories that can prescribe PrEP; however, research participants warned that continuing and permanent education initiatives should involve all primary health care unit workers, including those at the middle and technical levels.

Respondents also indicated that courses offered through digital platforms hinder the participation of some professionals due to limitations in the use of digital technologies and a lack of familiarity with distance learning.

This training is offered from time to time. It's not offered at the speed we need. So, it's very difficult to participate in it. Especially since it's online, because it also depends on each person's personal organization. (P11Farm)

It was also reported that some users are afraid to talk about their sexual practices. Furthermore, there is the fear of breach of professional confidentiality, the apprehension about seeking PrEP near their place of residence for fear of encountering someone they know, in addition to the stigma and prejudice present in society and among healthcare professionals themselves.

[...] working on stigma and prejudice with the workers, that's the biggest challenge. People say they don't have [prejudice], but in practice they do. So, today you have the LGBT public circulating here in the unit at all times. This used to be a unit that only had elderly people, diabetics, hypertensive patients, and children [...]. So, it somewhat changed the profile of the people we serve, despite the resistance from the workers. There are issues that we have to work on with the professionals, mainly because many times they say they don't quite agree with this practice. (P7Med)

In the case of the trans population, it's quite common for them not to want to be treated in the region where they are located, so we basically have people from all over Brazil. (P1Med)

In several interviews, the issue of PrEP being poorly publicized in the media came up, which hinders public awareness and adherence to this strategy, as well as the difficulty of access to health services for more vulnerable social groups and the distance of primary health care units from users' homes.

Someone who is extremely vulnerable isn't worried about whether or not they'll get HIV. They're worried about whether they'll have food to eat. So, it's not even that they don't necessarily know that [PrEP] exists. We offer it. [...] Now, if you talk about contracting HIV with someone who doesn't know if they'll have a place to live, they'll say, "What? My friend, I understand you're worried about HIV, but I have other concerns here." (P1Med)

Yes, I think there's a lack of awareness, so that people understand what PrEP is and what it's for. So that the people who need PrEP understand that they can come, that they will be welcomed, that they will have a space to be heard. (P3Enf)

Although most primary health care units have a specific office to serve users seeking PrEP, the number of rooms was mentioned as a limiting factor, due to the large number of services offered by the units and the number of professionals.

Like all primary health care units, we have difficulty with room allocation. To be within the ideal range, we often have to juggle the room layout. (P15Enf)

Staff turnover was cited and listed as a significant barrier to the implementation and expansion of PrEP provision at the primary health care unit, due to the constant need for training for newly hired staff. Furthermore, the availability of training does not keep pace with staff turnover.

The biggest challenge is the high turnover of professionals, especially doctors, which is enormous. We've practically changed the entire medical team since PrEP started. (P14Enf)

The duration of consultations conducted by nurses and doctors is cited as a barrier, as they are 20 and 15 minutes respectively, which was deemed insufficient considering the complexity of the care and the number of questions to be answered on the form used. An average consultation time of 2 to 3 hours was calculated, including examinations, consultation, and form completion.

The form is extensive. So, it takes a good amount of time to fill it out, do the exams, talk to the patient, see if they qualify or not. I think it could be a little less bureaucratic. (P9Med)

Our patient is waiting in the reception area to take the rapid test, and with all this vaccine and COVID-19 situation, he enters the reception area, takes a rapid test, and is referred to the doctor to get a prescription. There is one doctor for every 40 to 50 patients, so this patient ends up waiting 2 to 3 hours and gives up. (P8Enf)

Facilitators for the implementation of PrEP in primary health care units.

Participants reported that the implementation of PrEP in the primary health care units of the municipality under analysis occurred concurrently with the creation of the network of services focused on the health care of transgender people (Sampa Trans Network).

Since the creation of the Sampa Trans Network, primary healthcare units (UBS) and selected, previously trained professionals have begun offering specific services to the LGBT+ population. In this context, those interviewed reported that the availability of hormone therapy for transgender people in primary healthcare units positively influenced the dissemination of PrEP, based on the understanding that these services were already better prepared to serve the LGBT+ population, in addition to the users' own dissemination of information among their peers and on social networks, and the high daily circulation of people in the health units.

The dissemination of PrEP was highlighted by placing posters in primary health care units and strategic points throughout the territory, and by the distribution of pamphlets by community health workers, indicating the set of combined prevention strategies.

So, the community health workers are sending it to their patients. This pamphlet has everything the unit offers. So, it has hormone therapy, IUDs, condoms, rapid tests, HIV self-tests, PrEP, PEP. (P6Enf)

The participants added that a significant portion of users seeking HIV PrEP at primary health care units – young, white, homosexual, with higher education and formal employment – have prior knowledge about this form of prevention, acquired mainly from official websites on the internet.

[...] in general, therefore, this profile consisted of young, mostly white, university-educated gay men, relatively well-informed, some came with doubts, wondering if it's worth using PrEP or not. (P7Med)

The provision of PrEP was integrated into the already established care flows in primary health care units, following a standardization in the scope of action of health professionals in relation to walk-in appointments, where the user's reason for seeking the service is identified. Participants recalled that the prescription can also be made by a pharmacist working on the team, who addresses broad aspects of PrEP use. In some situations, the prescription is made jointly with the nurse and the doctor; in others, with the psychologist.

The unit doesn't need me [a doctor] as the prescriber. Sometimes I assist those in the walk-in room and exchange information with those there on how to administer PrEP [...]. But, in theory, we need to remember that PrEP doesn't need to be prescribed by a doctor. (P1Med)

Since we have a pharmacist in the unit throughout the entire service period, the consultation is used for consultation purposes, for examination, for conversation, for guiding the patient. This consultation is usually shared, doctor and nurse, they do it together, sometimes alternating with the psychologist. [...] it's a 30-minute consultation on the schedule. (P3Enf)

According to one participant in the research, nurses, due to their multiple caregiving roles combined with care management and the accumulation of work activities, play a less prominent role in prescribing PrEP.

Those who actually administer PrEP, I would say those who are the protagonists of the program, are the pharmacists, not the nurses. There are trained nurses, but they don't do it because they are taking on many other activities. There needs to be a certain division of internal labor, and since there are many activities and I don't have another category to do them, they [pharmacists] are dedicating almost all their time to this program. (P12Enf)

Respondents stressed that, despite the high demand for services at primary health care units, the team needs to ensure that PrEP users have an easy and welcoming first contact, a condition that can result in a bond with the team.

The first contact is very important. The patient must have a good impression and not wait too long to be seen. Being treated properly is crucial because it says a lot about what happens afterward. If they have a good start in the care pathway, it will be their chance to trust the service, adhere to it, and follow through. (P12Enf)

The respondents also mentioned other factors that facilitate the successful implementation of PrEP in the primary health care unit, such as teamwork, understood as essential to ensure that care flows and access to health are guaranteed, with each professional playing their part in the implementation of PrEP.

We have a well-structured team, and that's what makes it easy. The team and the people who currently work in PrEP have experience, they are very involved. It's not the kind of person who's just been thrown in there, so they go after it, they work hard. So, I think the team is very committed to that. (P3Enf)

The participants emphasized that the training offered by the Municipal Health Department provided professional development, from counseling to dispensing medication, and that the exchanges between colleagues in team meetings and the support from local management make them more confident when prescribing PrEP.

The training was very good, very complete. I feel capable. The department has always offered additional training and capacity building. So, there's always a refresher course, and when a more specific question arises, we can contact the people at the department's central office, and we end up getting the answer, they are always willing to help. (P16Farm)

Some interviews revealed that the physical structure and the number of professionals and adequate supplies indicate that the primary health care unit is also equipped to offer PrEP, in addition to all other services and activities.

DISCUSSION

Progress has been observed in the implementation of PrEP in primary health care in Brazil, especially from 2025 onwards, with the expansion of this strategy to new services within the SUS. On June 19, 2025, the country registered 686 municipalities and 210,557 dispensations⁽¹⁷⁾. Although the data analyzed in this study refer to the year 2022, the recent numbers highlight the importance of expanding this policy in the current scenario. The

expansion of PrEP in primary health care is an innovative action that directly impacts access and accessibility to public health programs⁽²²⁾.

The findings of this study show that the implementation of PrEP in primary health care occurs amidst institutional advances and persistent barriers. Among the facilitators, teamwork, continuous training, and prior knowledge on the part of users stand out. On the other hand, team overload, staff turnover, structural limitations, and HIV-related stigma are significant obstacles. These findings are consistent with the literature, reinforcing the need for structural measures and intersector actions that reduce people's vulnerability to HIV⁽²³⁾.

The provision of PrEP in primary health care units linked to the Sampa Trans Network, with services aimed at the LGBT+ population, emerged as a strategic facilitator, especially by mobilizing previously sensitized and trained professionals. The presence of care flows and ongoing and permanent education actions enhances the welcoming and trust of users, facilitating access to health for historically marginalized groups⁽²⁴⁾.

Furthermore, trained professionals who are aware of people's real health needs demonstrate greater proactivity in offering PrEP, which reinforces the need for structured inclusion of the topic in health education^(25,26). This illustrates how innovative actions at the local level can break with exclusionary patterns and expand access to the prevention of historically neglected diseases, such as HIV. This convergence is consistent with the proposal of combined prevention and with the principles of the Brazilian universal health system – the SUS.

In Brazil, despite the numerous challenges in the health system, there are no obstacles related to the high cost of medications, as pointed out by users themselves in other countries. Our systematic review study found that, in the United States of America, the payment for PrEP medications is a significant barrier to access to health, influencing, among other things, the choice of healthcare professionals to prescribe PrEP or not⁽²⁵⁾.

However, obstacles persist related to the lack of institutional dissemination of PrEP and the poor integration between educational actions, social communication, and health services. The absence of systematic campaigns on PrEP negatively impacts the strategy's reach among people with low levels of education or living in peripheral territories, reinforcing the urgency of segmented communication strategies based on equity. These elements comprise health vulnerability, especially in its collective dimension.

The results indicated that prior knowledge about PrEP among users originates mainly from sources outside public services, such as the internet⁽²³⁾. This highlights weaknesses in local health dissemination and education strategies, which should originate from the primary health

care units themselves, but are still incipient or centered on a single strategy, such as the placement of posters^(27,28). The absence of continuous campaigns through different means of communication, including digital media, with government incentives, limits the population's knowledge about PrEP^(29,30). This reinforces that the social dimension of vulnerability – communication and education – determines the individual dimension.

Teamwork and PrEP prescription by different professional categories were cited as a structuring axis of implementation, highlighting the leading role of pharmacists in care, including due to their greater availability of time in consultations. In addition to dispensing, these professionals act in qualified guidance on the use of medication, in clarifying doubts, in monitoring adherence and, in some contexts, in prescribing itself, according to local regulations and protocols. This expanded role strengthens the continuity of care, contributing to user safety, and consolidates PrEP as a practice integrated into the multiprofessional logic of PHC⁽³¹⁾.

On the other hand, nurses, although trained and with normative support for prescribing⁽³²⁾, have had limited action in direct assistance to PrEP users, due to the overload of functions and the scarcity of personnel, as mentioned by the participants, elements that represent vulnerability to HIV, in the social and programmatic dimensions.

Expanding the scope of nurses' practice, with the prescription and monitoring of PrEP in primary health care, represents a disruptive action in relation to the traditional biomedical model, allowing greater capillarity of prophylaxis, reduction of geographical and institutional barriers and strengthening of network care. Working in multidisciplinary teams, nurses assume a central role in care coordination, health education and qualified listening, contributing to the reduction of vulnerability to HIV, adherence to treatment and overcoming the associated stigma⁽³³⁾.

Literature indicates that nurse-led protocols often include proactive adherence support, counseling, and referrals to complementary services, factors that favor persistence in PrEP use^(34,35). In this sense, the findings demonstrate a mismatch between the potential of nursing in primary health care and the institutional conditions that limit the full exercise of the scope of nurses' practice, highlighting the need to reorganize the work process, with a more equitable division of tasks and strengthening nursing autonomy. Reorganizing work processes, expanding access to PrEP, and valuing the autonomy of these professionals are programmatic measures to reduce vulnerability to HIV.

The results also highlighted structural and organizational barriers, such as a reduced number of clinics, staff turnover, and fragmented care flow. These conditions negatively impact consultation time and the quality of the relationship between healthcare professionals and users,

fundamental elements for adherence to PrEP^(36,37). It is also worth noting that the COVID-19 pandemic exacerbated this scenario, overburdening services and hindering the consolidation of the strategy, and that primary health care has incorporated numerous activities and procedures over the years, but has maintained the number of professionals per primary health care unit. Therefore, there are structural conditions within the Brazilian Unified Health System (SUS) that maintain vulnerability to HIV as a persistent health problem.

Another key aspect identified in the individual and social dimensions is the persistent stigma surrounding HIV, sexuality, and PrEP use, on the part of both users and health professionals. This can act as an invisible barrier to prevention, even with the available technical support⁽³⁸⁾. Previous studies confirm that institutionalized prejudice affects access to PrEP, especially among vulnerable people, and indicate that overcoming this type of barrier requires more than one-off training sessions: it demands cultural, institutional, and curricular changes^(26,38). Thus, training courses in the health field – at the secondary, technical, and higher education levels – and continuing and permanent education actions have proven fundamental to expanding access to PrEP.

Additionally, the recent creation of services with PrEP prescription and follow-up via teleconsultation⁽³⁹⁾ is another relevant innovation that expands accessibility for people facing physical, social, or institutional barriers to attending health services⁽⁴⁰⁾. This type of digital strategy, if well integrated into the territories and the reality of users, families, and the community, can reduce inequalities and reach vulnerable populations, especially young people, transgender people, sex workers, substance users, and migrants. Therefore, PrEP in primary health care should not be seen merely as another activity or clinical protocol, but as a strategic tool for addressing health vulnerabilities. It redefines primary health care as a space for promoting equity, innovation, and social justice, central elements for tackling neglected diseases.

This study was limited by the small number of participants, restricted to primary health care units (UBS) that offer hormone therapy in a single Brazilian capital. PrEP users were not interviewed, which may restrict the analysis of the care experience. Furthermore, the data were collected in a post-pandemic period, which may have influenced the professionals' perception of the service routine.

The analysis revealed that expanding access to PrEP in primary health care requires more than just technical provision: it involves reorganizing care pathways, providing ongoing training for all workers, overcoming stigmas, and actively promoting inclusive environments. The data presented here can support managers and public health policymakers in expanding the

provision of PrEP in primary health care and in building more effective and equitable strategies to address HIV, especially among vulnerable populations. Furthermore, they highlight the urgent need to strengthen the role of primary health care as a coordinator of care and a key player in combined HIV prevention.

CONCLUSION

The present study analyzed, based on the experiences of primary health care workers, the barriers and facilitators for the implementation of PrEP for HIV in primary health care. By taking the perspective of these professionals as an analytical axis, it highlighted how the implementation process takes place in the daily work of health professionals, revealing both the structural constraints and the strategies built by the teams to enable access to the technology.

The results demonstrate that the barriers to PrEP implementation are not limited to technical aspects, but are deeply related to the concrete working conditions in primary health care, such as healthcare overload, staff turnover, insufficient supplies, weaknesses in specific training, and the persistence of stigma related to HIV and key populations. These elements, identified from the workers' experiences, show that the incorporation of PrEP does not occur solely on a technical level, but depends on the organization of the work process and institutional conditions, which modulate the capacity of services to respond to HIV vulnerabilities, especially in the social and programmatic dimensions.

On the other hand, the study also identified important facilitators mobilized by the teams, such as multidisciplinary work, territorial ties, qualified listening, and the construction of local strategies for welcoming and monitoring users. The decentralization of PrEP to primary health care proved to be an innovative action in addressing the HIV epidemic, expanding access for populations historically excluded from health services, such as LGBT+ people, especially transgender people and young people in vulnerable situations. The territorialized and integrated provision favors the reduction of institutional, social, and symbolic barriers, bringing prevention closer to the concrete realities of the territories.

The findings of this study reinforce that the effectiveness of PrEP as a public policy depends not only on the technical availability of this service, but also on the capacity of primary health care to provide care in welcoming, inclusive, and intersector environments. The experiences reported by the workers demonstrate that investing in ongoing training, reorganizing work processes, strengthening teams, and addressing stigma are fundamental conditions for consolidating PrEP as an equitable HIV prevention strategy.

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AVAILABILITY OF DATA AND MATERIAL

Access to the dataset may be obtained by requesting it from the corresponding author.

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DECLARATION OF CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

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