



Vaccination Service by Pharmacists: Perspectives and Opportunities in Brazil

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ARTICLE INFO

Article history:

Received : 02-05-2025

Accepted : 12-05-2025

Available online : 16-05-2025

Keywords:

Vaccination, Public health, Pharmacists, Vaccine hesitancy, National Immunization Program (PNI),

ABSTRACT

Original research paper

In this text, I explore the role of vaccination in public health, particularly within Brazil, and the growing importance of pharmacists in improving vaccination rates. I emphasize how crucial vaccination is for protecting people from harmful diseases. However, I also address the issues arising from decreasing vaccination coverage and the challenge of widespread misinformation. Brazil's National Immunization Program (PNI), established in 1973, was created to provide equal access to vaccines for all Brazilians. Yet, the COVID-19 pandemic exposed inequalities in vaccine distribution and deficiencies in the PNI, such as struggling vaccination centers and vaccine shortages.

To combat these problems and boost vaccination rates, I argue for the importance of pharmacist-led vaccination services. Pharmacists are essential in administering vaccines, educating the public, and tackling vaccine hesitancy. They can also make vaccines more accessible, especially to vulnerable groups, through community pharmacies and vaccination campaigns.

The rise of misinformation during the pandemic highlighted the need for better communication and increased health literacy. I conclude by advocating for ongoing education, training, and collaborative efforts to optimize vaccination programs and achieve better public health outcomes for everyone.

Introduction

According to the WHO, vaccination is a simple, safe, and effective way to protect people against harmful diseases before they come into contact with them (WHO, 2021).

The reemergence of vaccine-preventable diseases due to declining vaccination coverage has been documented in several countries, notably the decrease in childhood immunization, including polio prophylaxis, which has become a public health concern (Donalisio et al., 2023). Furthermore, the study by Sato et al. (2023) states that achieving and maintaining high and homogeneous vaccination coverage is crucial for measles elimination, requiring global efforts and commitments.

Given these data, we aim to analyze the current vaccination situation and describe the role of pharmacists in this context.

National Immunization Program

In 1973, the Brazilian Ministry of Health established the National Immunization Program (PNI) to ensure equitable access to vaccines for the Brazilian population.

Regarding the development of the PNI, Temporão (2003) concluded that, at that time, the centralization of the vaccination program at the national level, along with the use of tools, techniques, and strategies combined with medical-sanitary technologies—given their pedagogical nature—was

fundamental in shaping a specific public health consciousness. This approach strengthened the perception of vaccines as a universal and equitable public good (Temporão, J.O., 2003).

More broadly, Temporão (2003) argued that the PNI introduced an innovation that became embedded in state practices, fostering a societal perspective that democratized the use and access to health technologies. Within this framework, equity and universalization were perceived as inherent characteristics of the healthcare system.

The COVID-19 pandemic revealed a different reality. It is crucial to highlight the lessons learned during the health emergency: market mechanisms prevailed over public health logic. High-income countries secured significantly larger vaccine supplies in the early stages, while the global COVAX-WHO mechanism failed entirely to ensure equitable access in the first months of vaccine distribution (ENSP, 2023).

By 2023, the national program was in a state of complete disarray, with approximately 40,000 inefficient vaccination centers, vaccines nearing expiration, and shortages in various regions of the country. These shortcomings resulted in a severe lack of adequate access for individuals to receive their vaccinations (ENSP, 2023).

Nevertheless, in response to the growing public demand for vaccines—particularly those not included in the national immunization schedule—and considering the evolving national epidemiological landscape, the PNI has been working to expand the immunization calendar and vaccine availability. New immunizing agents have been incorporated into the public health system.

In this regard, the Ministry of Health has decided to include the COVID-19 vaccine in the PNI, making it available starting in 2024. States and municipalities have been advised to prioritize children aged six months to less than five years, as well as high-risk groups susceptible to severe forms of the disease. Additionally, the population will continue to have access to the bivalent COVID-19 vaccine, with an annual dose recommended for protection against long COVID (Agência Brasil, 2023).

Beyond the COVID-19 vaccine, in 2023, the dengue vaccine was also incorporated into the national program. The Ministry of Health established the beginning of vaccinations in 2024, defining priority groups and high-incidence regions for vaccine distribution. With these measures, dengue will now be classified as a vaccine-preventable disease (Ministério da Saúde, 2023).

Thus, it is evident that vaccines play a crucial role in the prevention and control of respiratory diseases. One of the Ministry of Health's key objectives remains the prevention of illness caused by these public health threats (ENSP, 2023).

Health Infodemic

During the pandemic, the emergence of misinformation and the need to listen to citizens regarding false news about

vaccines became critically important. This was a new phenomenon in Brazil, where the anti-vaccine rhetoric spread widely—although it had long existed in other countries, it had never been as prominent in Brazil (ENSP, 2023).

In light of this issue, it is important to highlight that false information about immunization was actively disseminated by anti-vaccine groups in Brazil. These groups worked persistently to misinform the population during public debates on the development, production, distribution, and administration of vaccines (ENSP, 2023).

There were significant spikes in misinformation, particularly during key moments such as the cooperation agreements between Butantan-China and Fiocruz-AstraZeneca, and notably after the Brazilian Health Regulatory Agency (Anvisa) approved immunization for children aged 0 to 5 years. This led to an exponential rise in the volume of misleading information targeting childhood vaccination (ENSP, 2023).

Additionally, strategically constructed narratives with entirely false information emerged, designed to evoke emotions such as fear and hatred. These messages instilled concern, anxiety, and even panic among parents of children and adolescents, further exacerbating uncertainties at the time. Moreover, anti-vaccine discourse aimed to delegitimize scientific institutions and their representatives (ENSP, 2023).

Regarding the infodemic, the pandemic provided a key lesson: scientific advancements can become focal points of ideological controversy, fueling the spread of false information (ENSP, 2023).

Furthermore, misinformation disproportionately affects vulnerable groups, who already face disparities in awareness and education. This lack of knowledge can lead to vaccine hesitancy by fostering misconceptions and fear about immunization, ultimately creating additional barriers to vaccine access (IPF, 2024a).

The Role of Pharmacists in Vaccination

To achieve effective vaccination coverage, it is essential not only to have vaccines available but also to implement well-structured strategies that ensure access for that in need, alongside measures to address vaccine hesitancy.

In this context, pharmacist-led vaccination services play a crucial role in enhancing national immunization coverage. Vaccination in community pharmacies complements and expands the immunization schedule, while educational campaigns focused on health literacy increase public confidence in vaccines (IPF, 2024b).

Pharmacists are well-trained to administer vaccines and possess comprehensive knowledge of their benefits and risks, allowing them to directly apply this expertise in patient care (IPF, 2024a; IPF, 2024b).

They can provide information about the vaccine certification process and explain in a simple and clear manner why continued polio vaccination is necessary, even though the disease has been eradicated in the country for many years.

Notably, pharmacist-led vaccination services help eliminate major barriers that prevent vulnerable populations from accessing vaccines. Community pharmacies operate seven days a week, including weekends, and often extend their hours into the evening. Many pharmacies even provide round-the-clock (24/7) service.

These services help reduce inequities in vaccine access, particularly for underserved populations, thus contributing to improved immunization coverage. However, pharmacists face several challenges and barriers, such as time constraints, funding limitations, workforce shortages, and the need to enhance pharmacists' confidence in managing emergency responses to adverse reactions (IPF, 2024b).

To overcome these challenges, various methods, strategies, and policies can be implemented within the national healthcare system. Some proposed measures include establishing vaccination programs in community pharmacies, promoting collaborative practice agreements, and increasing the frequency of immunization campaigns within these settings (IPF, 2024b).

Expanding vaccination strategies enhances accessibility, making pharmacist involvement a critical factor in improving vaccine uptake. Greater engagement of pharmacists in immunization programs, their participation in vaccination campaigns, and their role as collaborative healthcare team members collectively contributes to broader efforts aimed at increasing vaccine access (IPF, 2024b).

Pharmacists have sought to understand vaccine hesitancy to develop effective responses. A recent document from the International Pharmaceutical Federation (IPF) highlighted the U.S. Centers for Disease Control and Prevention (CDC) definition of vaccine confidence as a multifaceted concept encompassing belief in vaccine effectiveness, safety, and reliability within the healthcare system (IPF, 2024a; IPF, 2024b).

Moreover, vaccine-seeking behaviors vary widely, ranging from individuals eager to be vaccinated to those who firmly refuse immunization. The crucial middle ground consists of individuals who require targeted attention and tailored information to address their specific concerns (IPF, 2024b).

Health literacy is intrinsically linked to vaccine confidence, encompassing the ability to understand vaccine-related information, assess benefits and potential side effects, and navigate healthcare systems—areas in which pharmacists have extensive expertise (IPF, 2024b).

Thus, pharmacists play a vital role in strengthening public confidence in vaccines. Beyond administering immunizations, they serve as educators and public health advocates. Their training includes essential counseling and educational skills, integrated into pharmacy curricula, enabling them to address families' concerns and dispel misconceptions about vaccine safety (IPF, 2024b).

Educational campaigns conducted by community pharmacies effectively raise awareness of the benefits of vaccination, particularly among vulnerable populations. Pharmacists develop evidence-based educational materials for both

pharmacy teams and the general public, distributing them free of charge (IPF, 2024b).

Pharmacist-led strategies incorporate culturally sensitive communication approaches that acknowledge diverse health beliefs and reduce informational barriers. These materials educate the public on specific vaccines and emphasize the importance of immunization for high-risk groups, such as older adults, individuals with chronic conditions, and pregnant women (IPF, 2024a).

Pharmacists recognize the urgent need to revamp vaccine communication strategies and combat misinformation. Decentralizing vaccination services and understanding local immunization trends are crucial to identifying the best approaches for removing barriers and ensuring vaccine access (IPF, 2024a). Simply having vaccination sites open and offering free vaccines is not sufficient to achieve high coverage; at-risk and vulnerable populations may still face significant accessibility challenges.

Several barriers hinder access to vaccines, including the geographic location of healthcare centers, socioeconomic constraints, and transportation costs. Addressing and eliminating these obstacles is essential (IPF, 2024a).

In this regard, the proximity of community pharmacies to vulnerable populations, low-income neighborhoods, remote communities, and underserved municipalities is particularly valuable. Pharmacists can lead vaccination campaigns in these areas, administering vaccines in schools, homes, open markets, and public spaces, thereby improving immunization access.

The accessibility of pharmacies makes them ideal venues for public health campaigns and vaccine safety education, ultimately reducing inequities in vaccine access (IPF, 2024a; IPF, 2024b).

Community pharmacies and pharmacists can also engage in social mobilization initiatives by involving political, religious, and community leaders, as well as local artists and influencers, transforming pharmacies into hubs for health promotion and reinforcing the importance of immunization.

Another key communication strategy involves leveraging social media platforms to disseminate high-quality vaccine information. Pharmacists should monitor media trends to provide clear, concise messages about vaccine development, certification, and safety, addressing common concerns and misinformation.

Educational initiatives led by pharmacists enhance public trust in vaccines and are integral to broader efforts to improve vaccine acceptance and health equity. Moreover, they empower individuals to exercise their right to accurate information and effective communication.

Conclusion

Collective perceptions emphasize the critical role of continuous education, training, and collaborative efforts in optimizing vaccination initiatives. The role of pharmacists in vaccination services, as outlined in this discussion, can be

instrumental in addressing vaccine confidence, improving adherence rates, and ultimately contributing to better public health outcomes.

However, health literacy alone does not guarantee vaccine acceptance, as social, cultural, and psychological factors, misinformation, and personal experiences also influence decision-making. Together, education and health literacy can promote health equity by improving access and empowering individuals to make informed vaccine-related decisions.

Addressing vaccine hesitancy in the country requires a coordinated, multidisciplinary response supported by evidence-based tools and interventions. Understanding and analyzing the flow of misinformation are essential for developing more effective communication strategies and actions.

In light of these considerations, pharmacists can play a crucial role in actively promoting vaccination, building vaccine confidence, and increasing immunization coverage. These contributions ultimately lead to improved health outcomes, enhanced quality of life for individuals, and strengthened healthcare systems and societies.

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