Users' perception of hesitancy and delay in vaccination in Primary Health Care

Percepção dos usuários acerca da hesitação e atraso da vacinação na Atenção Primária à Saúde

Percepción de los usuarios sobre indecisión y retraso en la vacunación en Atención Primaria de Salud

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ABSTRACT

Introduction: Vaccination is an extremely important and necessary act from the beginning of a human being's life. Aim: Unveil users' perception of the reasons for hesitancy and delay in vaccination. Outlining: This is an exploratory-descriptive study with a qualitative approach, through the application of a semi-structured interview with users (51) of the Basic Health Units (UBS) in the city of Tianguá - CE, data collection was carried out between November and December 2021, the interviews were transcribed, Bardin's content analysis technique (2016) was used to organize data and the results were presented with the help of the Iramuteq™ software. Results: four thematic categories were identified: 1 - Fear and dread of the adverse effects is a factor in the vaccine refusal, 2 - Challenges in ensuring user accessibility to vaccines, 3 - Users' distrust about the benefits of vaccines and 4 - Lack of information and understanding about the effects of non-adherence to vaccination. It was then found that hesitancy and/or refusal to get vaccinated is motivated by multifactorial aspects, which can influence users' decisions individually or jointly. Implications: Health professionals play a key role in promoting vaccination, being a preferred source of information indicated by users.

DESCRIPTORS

Primary Health Care; Immunization Programs; Users; Vaccination.

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INTRODUCTION

Vaccination is an extremely important and necessary act from the beginning of a human being’s life. It is estimated that more than 30 doses of vaccines are administered every second worldwide, and there is no other more efficient way to prevent various public health problems and avoid thousands of deaths every year.¹

Mass vaccination, which began in the 20th century, made it possible to eradicate or drastically reduce the worsening of diseases such as smallpox and polio. These positive effects of vaccination campaigns have erased the memory of the tragic consequences of past widespread diseases, leading people to underestimate the severity of the harm that vaccines prevent. In recent years, a complex mix of contextual factors has promoted an amplification of this paradoxical situation, the vaccine hesitancy.²

Since 1990, Brazil has shown good acceptance of vaccination, however, despite ease of access, recent data have shown a drop in vaccination coverage since 2015. This reduction in the vaccination coverage rate has been observed in other countries since 2013.³ In the first half of 2019, more than 120,000 cases of measles were recorded in 42 European countries, causing many countries to lose their certificate of elimination of this disease.⁴⁵

As presented in the Epidemiological Bulletin issued by the Ministry of Health in September 2019, Brazil has been showing the same global trend, where in the period from June to August 2019, 2,753 cases of measles were confirmed, with four deaths, with none of these individuals having measles vaccination.⁶

The increase in the number of cases of diseases that are preventable through vaccination and the reduction in the number of people immunized against them means that we have a threat to the world population, becoming a serious public health problem. One of the reasons that have allowed the return of these diseases previously considered eradicated or controlled is the refusal of some people to be vaccinated.⁷

In this way, to know the factors that affect the success of vaccination policies contributes to the planning of vaccination promotion measures, resonating the following questions: What are the perception and perspectives of the user regarding the reality experienced with vaccination in PHC? And what are the reasons that have led some people not to get vaccinated, or even delay the vaccination schedule?

At the moment, a small number of Brazilian studies have addressed reasons for refusing vaccines available in the Unified Health System (SUS), and rarely mention what we call vaccine hesitancy, as a behavioral phenomenon that evaluates the delay or refusal to accept the vaccines offered by health services.

Considering all the facts, it is important to carry out a study to understand the real situation regarding the acceptance of vaccination in Brazil, as well as the reasons that have led to refusal. In such a way, this study aims to reveal the perception of the user regarding hesitancy and delay in vaccination in Primary Health Care (PHC) in the context of a reference municipality for a decentralized area in Health in Ceará.

METHOD

This is a descriptive-exploratory piece of research with a qualitative approach. Understanding reality emerges from the critical analysis of processes, structures, perceptions, products, and results by articulating the vision of the social actors with the possibility of transforming their contexts.

The scenario of this study was made up of the 27 Basic Health Units (UBS) that make up Primary Health Care (PHC) in the Municipality of Tianguá - CE. The choice of this municipality as the field to be studied was intentional and is due to the fact that the municipality of Tianguá is where both research team and institution responsible for the study operate, in addition to presenting a diversity in social, economic, and cultural features, providing an
expanded look at the investigation proposed in the study.

51 inhabitants of Tianguá, users of PHC, were the study participants. The selection of participants was random, according to the availability of participants and the sample was determined by data saturation. As inclusion criteria, the following were adopted: Users (parents, adults, pregnant women, and elderly) who attend Basic Health Units (UBS), aged 18 years or over and presenting a delayed (vaccination) dose scheme/vaccination schedule. As exclusion criteria, the study adopted: People who are unable, temporarily, or permanently, to legally answer for their actions, or who are not available for interview during the data collection period.

Data collection was carried out between November and December 2021. After identifying the research participants, they were invited to participate in an interview in a quiet environment, ideal for the user and the researcher to have privacy and, thus, offer better understanding about the instrument. The semi-structured interview was applied with the help of a script supported by guiding questions with the purpose of obtaining statements from interviewees on users' perception about vaccination, the reasons that have led to vaccine hesitancy, and investigate the difficulties/challenges that users face in keeping the vaccination schedule updated. The interviews were electronically recorded and lasted an average of 20 minutes.

The interviews were transcribed and organized using the Content Analysis Technique proposed by Bardin. After Bardin's analysis, the Lramuteq™ software was used, where the transcribed contents of all interviews were unified into a single corpus for insertion into the software. The corpus processed by Lramuteq allowed the analysis of textual data using a word cloud that randomly organized the most frequently used words.

Based on the empirical reality expressed in the informants' point of view, they were epitomized in four thematic categories. The results were displayed through excerpts from the interviews, identified via the use of codes composed of the letter E (first letter of the word “entrevistado” - which is the Portuguese for “interviewee”) followed by a number which represents the order the interviews were carried out (e.g., E1) to guarantee the secrecy, anonymity and confidentiality of information.

When preparing this manuscript, the criteria for reporting qualitative studies, present in the COREQ checklist - Consolidated criteria for reporting qualitative Research, were taken into account.

The research followed the ethical principles of resolution no. 466/2012 of the National Health Council (CNS). The study obtained the consent of the Health Secretary of the Municipality of Tianguá - CE and the favorable opinion of the Research Ethics Committee of the UNINTA University Centre under the opinion No. 5,101,793.

RESULTS

Characterization of research participants

The study had a participation of 51 users, presenting a proportionality in terms of gender, being (27) male and (24) female who were in the age range 18 to 60 years old, these were classified into users according to the group of the immunization program, with a significant presence of the group of adults (44) and soon after equally the group of parents of children (4) and pregnant women (3). The brown color (28) presented a greater participation, in terms of education the majority were literate (49) and only a minority were illiterate (2), in terms of religion there was a predominance of Catholics (23), followed by christians (17). Regarding income, the majority report having a minimum wage as a basis (41) and do not receive any social benefits from the government (36). As for the immunobiological with the highest prevalence of delay, the vaccine against Covid-19 (36) stands out, followed by Influenza (10).
Users’ perception of hesitancy and delay in vaccination in Primary Health Care

Thematic categorization of the study

The data understood through content analysis resulted in four thematic categories, which were originated from 205 Registration Units (RU). We also obtained the comparison of similar words or expressions of words that are repeated the most, thus a visually simple analysis of the most frequent words in the analyzed text segments, which can also be observed in the word cloud (figure 1) that brings together the essential keywords presented in the interviews that supported the construction of the thematic categories.

When textually analyzing the frequency of words for all interviews (corpus), using Iramuteq®, a total of 4,362 occurrences were found, 96 text segments, with the following words being the ones with the highest incidence: Vaccine (116); No (112); Take (110); work (87); internet (62); information (46).

Figure 1 - Word cloud representative of interviews’ analysis, Tianguá -CE, 2022.

Source: Prepared by the authors through coding in the Iramuteq™, 2022.

Next, the categories are highlighted according to the key meanings in the participants’ statements and findings, which enabled an in loco analysis of users’ daily lives.

Fear and dread of the adverse effects is a factor in the vaccine refusal

It was evident that fear of adverse effects is an important factor in vaccine refusal. The following reports highlight users’ perceptions of fear and dread regarding possible side effects, which would ultimately affect acceptance of vaccines:

“I didn’t take it because I was afraid of the reactions”. (E10)

“I was concerned with some side effects, I was afraid”. (E12)

“We didn’t know what reactions a normal person would have, let alone a pregnant woman.” (E1)

“At the beginning of the pandemic, I didn’t trust the vaccines, some people felt feverish, getting sick, I didn’t take it right away because of the effects.” (E6)

“...I worry about the side effects over time, whether it will cause any illness.” (E8)

In addition to fake news, rumors and negative experiences spread easily among users:
“...Right at the beginning, I was still reluctant to take the vaccine, because people talked about the side effects, like turning into an alligator...” (E2)

“...The symptoms that people felt, initially those who took the vaccine that was going through the testing phase, had some symptoms and side effects, this made me afraid initially...” (E2)

“...I was afraid of the reaction because of the fake news, which talked about the reactions and illnesses that the vaccine caused...” (E6)

Beyond the fear of adverse reactions, some users have an aversion to needles and fear of injections, either due to past traumas or because they do not accept that their children feel the pain of the injection, associating vaccination with a painful act that causes suffering. In this way, they end up becoming resistant to vaccination, as observed in the following statements:

“...I don't take it, I'm really afraid of taking an injection.” (E10)

“Every time I went to watch television, I saw those people with those needles showing them and they applied it to their arm like that, then it remained in my mind, then I created this trauma.” (E10)

“I thought it was just one, right? So when I got there, there were two and now they put it at three so I didn't take any more, I'm scared to death of injections.” (E3)

Challenges in ensuring user accessibility to vaccines

In this category, PHC patients exemplified the unavailability of vaccines as difficulty in accessing vaccination. See the following lines:

“...I came and there was no vaccine” (E2)

“...I'm taking it late because the two times I looked for, there was no vaccine.” (E16)

“...because there where I lived it lags on vaccination.” (E8)

“...because the government has not yet released...” (E1)

“...it's because they haven't been made available at my health post yet, I looked for them, but they haven't arrived yet, so I'm waiting...” (E2)

Some health units concentrate the supply of some immunobiological agents on certain days, at specific times. However, some users look for the unit at times when the vaccine is not available, either due to misinformation or failures in communication between the user and the unit's employees. Thus, demonstrating that there are failures in the transfer of information and clarification of users' doubts, fundamental issues for good reception.

When asked about the difficulties in keeping the vaccination schedule up to date, most users reported that work is one of the main reasons. Working hours often coincide with the opening hours of the units, making access difficult, as the immediate boss often does not allow his employees to be absent during their working hours.

“I travel a lot for work and the vaccines here were always on Friday and I was traveling...” (E15)

“...I was working and there was no way I could bring her (daughter)” (E16)

“I didn't take it because of the time, I'm always at work”. (E14)

“The difficulty is leaving work...because the boss usually doesn't want to”. (E22)

“The schedule makes it difficult because the vaccine only takes place in the morning, and I don't have time in the morning because I work.” (E13)

“It took me a while because I didn't have time to come, I was working, I work all day long.” (E33)

“I live on a family farm and it is only on someday vaccine is applied, on the day I was working.” (E25)

Users’ distrust about the benefits of vaccines

This category involves important elements regarding vaccine delay and resistance, as it deals with several factors that interfere with the population’s confidence in the benefits provided by vaccines. Furthermore, the lack of confidence in vaccines was one of the causes of vaccine delays that had the greatest impact on the present study. It can be observed in some statements:

“I didn't want this vaccine, I don't trust it” (E4)

“For me it's the biggest nonsense, but you have to take it” (E8)

“I don't trust this vaccine, for me it's not effective at all, it's like applying water” (E11)

“I think the vaccine is not effective” (E13)

“...I don't think the vaccine is effective.” (E3)
The population receives negative information about immunization agents, and tends to believe it more and, therefore, is more insecure about immunization. The proliferation of this information could put vaccine adherence at risk, as highlighted in the following statements:

“I’m not going to take it, because if it is for a person to be ok and then, take it and to get sick, take the poison, I’m not going to take it.” (E2)

“I don’t believe in vaccines, I think this is just a hoax, I distrust the government.” (E8)

“No, the vaccine is good, it is just that one that isn’t working yet, but that’s just the one, I’ve already taken all the others, just the one for Covid that I didn’t take at all.” (E3)

“I heard rumors, and I was concerned” (E2)

“I’ve seen it on the internet (facebook) talking about the side effects of this vaccine and that it had no effect on some people”. (E12)

Lack of information and understanding about the effects of non-adherence to vaccination

Not understanding the potential severity of vaccine-preventable diseases can lead to a lack of concern about the diseases, and a lack of interest in the individual and collective importance of immunization, as can be seen in the following statements:

“...Well, I personally think that the vaccine does not protect the individual from catching the disease.” (E3)

“I didn’t feel like taking it” (E12)

“I didn’t take it just for lack of interest.” (E9)

“I’m not interested in getting vaccinated yet, nothing makes vaccination difficult, just my opinion.” (E1)

“I didn’t want to take it, I don’t think it’s necessary.” (E8)

“Just my lack of interest in keeping the calendar updated.” (E10)

“I don’t think it’s necessary, because I hardly ever get the flu.” (E16)

Some users also reported that they did not receive information about vaccination, as can be seen in the following statements:

“I didn’t have any guidance and I wasn’t aware that I already had to take it.” (E8)

“...because I didn’t know, I thought it was just for the elderly, but when I went to see it, it was for younger people too.” (E8)

“I didn’t take it because I didn’t know I needed it, I wasn’t advised by anyone.” (E19)

“I didn’t know, there weren’t any community health agents in my neighborhood.” (E17)

“...I thought it was just the elderly, but now they’re vaccinating everything, right?” (E27)

Another factor that contributes to a lack of understanding about the negative effects of non-adherence to vaccination is the current political context in Brazil in confronting the pandemic, which may have reduced users’ confidence in the information received about the pandemic and vaccines. In this way, a considerable part of the population began to deny vaccination due to the influence of the statements and attitudes of political leaders, as can be seen in the following statements:

“The president is out because he knows that the vaccine is not effective at all.” (E11)

“He (the president) said he doesn’t need a vaccine, that it’s just a little flu, he defends the family, so I believe him...” (E25)

“The president didn’t take it, so won’t I.” (E16)

DISCUSSION

In this case-control study we identified. The dread of possible reactions resulting from vaccines was associated with a lower perception of the risk of vaccine-preventable diseases and, consequently, lower adherence to vaccination. In other words, the population ends up having more afraid of the effects of the vaccine than the effects of the disease itself and having mistaken perceptions about the risks of vaccine-preventable diseases.

This collective fear is closely linked to the idea that vaccines can cause consequences and cause health problems in the future, a risk that does not justify the prevention of potentially lethal diseases.14

The fear of adverse reactions adds to anti-vaccine movements, which only grow and are strengthened by the dissemination of incorrect health
information shared on a large scale, especially on the internet, the so-called “fake news”, news that appeals to the reader's emotions and provides false information, mainly spread on social media.\textsuperscript{15} The dissemination of incorrect information leads the population to question the safety of vaccines, their effectiveness and risks, based on philosophical, political and religious grounds.\textsuperscript{13}

Political polarization, conspiracy theories, anti-vaccine movements, and concerns about a new vaccine have rapidly increased across social and traditional media. Unfounded and incomplete information and rumors about the origins of these vaccines reach many people more quickly than reliable scientific information and can affect both population's trust and acceptance.\textsuperscript{16}

In general, the population receives more negative information about immunization agents, tends to believe it more and, therefore, is more insecure about immunization. The negative impact of fake news on trust is immediate, as it greatly interferes with the understanding of the safety and effectiveness of vaccines, leading the population to disbelieve the information and advice provided by authorities and health professionals, reducing trust in science and health systems.\textsuperscript{17}

The proliferation of this information could put vaccine adherence at risk. The knowledge of a health professional with competence and confidence to clarify the matter is capable of minimizing this risk.\textsuperscript{13} Often, the information that the media disseminates is insufficient for people to take control of preventive measures, and sometimes, people have difficulty understanding the information, making misinterpretations.\textsuperscript{14}

Misinformation is not just a lack of clarification, but a process of lack of knowledge that mediates and determines health-disease-care processes. In this case, the uninformed individual is more likely to carry out research on the internet and, consequently, more exposed to false information that could influence their decision.\textsuperscript{17} In this sense, misinformation stands out as a barrier to collective immunity acquired through vaccines, which can considerably affect acceptance and vaccination coverage.\textsuperscript{18}

It is important that nursing becomes involved as an educator on immunobiologials, and to be in constant update, in addition to correctly informing users and enabling health team professionals to mitigate population's doubts, as well as clarifying the safe search for information.\textsuperscript{19}

Healthcare professionals play an important role in maintaining confidence in vaccines as they are considered a reliable source of information. Therefore, continued access to information about vaccine-related precautions and adverse events can increase confidence and reduce vaccination hesitancy. Furthermore, the welcome of the vaccination room is one of the fundamental equipment for adherence to immunizations.\textsuperscript{18}

Another factor that contributes to vaccine hesitancy is Brazil's current political context in confronting the pandemic, which may have reduced users' confidence in the information received about the pandemic and vaccines. President's speeches and actions during the research period negatively influenced citizens' behavior by openly highlighting the denial of the risks associated with the novel coronavirus, contradicting the recommendations of health authorities and questioning the safety of vaccines.\textsuperscript{20}

The results reinforce the need for educational interventions in the population to provide adequate information about vaccination. This means disseminating not only scientific information about the disease and how vaccines work, but also the ability to pass on this information in a way that makes it easier for the population to understand.\textsuperscript{14}

Community Health Agents (ACS) have a very important role in communication, as they are members of the team who work in the community, which allows for the creation of bonds and easier reception, thus favoring the dissemination of
information. ACS are important speakers, responsible for providing health services, when well instructed and using the link between professionals and the community, they can promote population's trust and credibility for COVID-19 immunization.21

However, it is known that there are still flaws in the system in terms of coverage and many territories are not supported by ACS due to a lack of professionals, making access to health information difficult. The fundamental importance of the work of community health agents is reinforced, as they can act directly in the community and identify those who do not have access to information.

Even with the expansion of PHC, there are still barriers and difficulties in ensuring accessibility for users, mainly related to the organizational issue. Therefore, it is essential to know and analyze the factors that facilitate or hinder access to vaccination rooms. In this way, it is possible to contribute to the planning and implementation of actions that reduce the impasses encountered, promoting the humanization of care and increasing vaccination coverage, with the improvement of the accessibility to immunization.22

Sample's heterogeneity is pointed out as the limitation of the study, as it hinders generalizations and comparisons of the results. It is suggested that other studies be developed, pieces of research that compare the perception between specific groups (elderly, pregnant women, health works etc.) or even specific immunobiologicals, since the study presented as inclusion criteria all vaccines contained in the vaccination schedule provided by the public health system. This way, it will be possible to identify whether there really is a difference between determining factors for vaccine hesitancy or delay in PHC.

The organizational aspects of health services can imply the functioning of the entire system, also including the inclusion of users of immunization services. Therefore, it was important to understand the barriers to accessing immunization services so that strategies can be planned to reach the target audience.

By identifying the possible factors of vaccine hesitancy, it creates conditions to support a care plan and intervention strategies with the aim of increasing vaccination coverage indicators. Knowing the factors of hesitation and the strategies used by PHC are also important elements for following up care for these users.

**FINAL CONSIDERATIONS**

The crossing of the different dimensions and problems identified in the interviews with users, to carry out this study, allowed us to verify that hesitancy and/or refusal to be vaccinated is motivated by multifactorial aspects, which can influence users’ decisions both, individually and jointly.

Sociodemographic and family aspects, government and health policies, access to information and feelings intrinsically related to the act of vaccinating are clearly associated with the problem of vaccine hesitancy. Factors such as belonging to religious convictions, feelings of insecurity regarding vaccines, lack of information, erroneous information, fear of harm and adverse reactions, were also identified as factors of vaccine hesitancy, and in our study, the last three factors mentioned proved to be the most preponderant.

Anti-vaccine movements, despite being old, are strengthening around the world, starting more visibly in high-income countries. However, the impact of this negative sentiment towards the vaccine will certainly be more important in low- and middle-income countries, as these movements strengthen. Therefore, it is essential that managers, researchers and the Brazilian population mobilize to protect our successful immunization program.
RESUMO
Introdução: A vacinação é um ato de extrema importância e necessário desde o início da vida de um ser humano. Objetivo: Desvelar a percepção dos usuários acerca dos motivos de hesitação e atraso da vacinação. Delineamento: Trata-se de um estudo exploratório-descritivo de abordagem qualitativa, através da aplicação de uma entrevista semiestruturada com usuários (51) das Unidades Básicas de Saúde (UBS) do município de Tianguá – CE, a coleta de dados foi realizada entre os meses de novembro a dezembro de 2021, as entrevistas foram transcritas sendo utilizado para organização dados a técnica de análise de conteúdo de Bardin (2016) e para apresentação dos resultados o auxílio software Iramuteq®. Resultados: Enquanto resultado se identificou 4 categorias temáticas, sendo elas: Categoria Temática 1 - Medo e temor dos efeitos adversos é um fator na recusa vacinal, Categoria temática 2 - Desafios para a garantia da acessibilidade dos usuários a vacinas, Categoria temática 3 - Desconfiança dos usuários sobre os benefícios das vacinas e Categoria temática 4 - Falta de informação e compreensão sobre efeitos da não adesão à vacinação. Verificou-se então que a hesitação e/ou recusa em se vacinar é motivada por aspectos multifatoriais, podendo os mesmos, influenciar a decisão dos usuários de forma individual ou conjunta. Implicações: Os profissionais de saúde desempenham um papel fundamental na promoção da vacinação, sendo uma fonte de informação preferencial apontada pelos usuários.

DESCRITORES
Atenção Primária à Saúde; Programas de Imunização; Usuários; Vacinação.

RESUMEN
Introducción: La vacunación es un acto sumamente importante y necesario desde el inicio de la vida del ser humano. Objetivo: Revelar la percepción de los usuarios sobre los motivos de indecisión y retraso en la vacunación. Delineación: Se trata de un estudio exploratorio-descritivo con enfoque cualitativo, mediante la aplicación de una entrevista semiestructurada a usuarios (51) de las Unidades Básicas de Salud (UBS) de la ciudad de Tianguá - CE, la recolección de datos se realizó entre De noviembre a diciembre de 2021 las entrevistas fueron transcritas utilizando la técnica de análisis de contenido de Bardin (2016) para organizar los datos y el software Iramuteq® para presentar los resultados. Resultados: Como resultado, se identificaron 4 categorías temáticas, a saber: Categoría Temática 1 - El miedo y el miedo a los efectos adversos es un factor en el rechazo de las vacunas, Categoría Temática 2 - Desafíos para garantizar el acceso de los usuarios a las vacunas, Categoría Temática 3 - Desconfianza en usuarios sobre los beneficios de las vacunas y Categoría Temática 4 - Falta de información y comprensión sobre los efeitos de la no adherencia a la vacunación. Luego se constató que la vacilación y/o negativa a vacunarse está motivada por aspectos multifactoriales, que pueden influir en las decisiones de los usuarios de forma individual o conjunta. Implicaciones: Los profesionales de la salud juegan un papel clave en la promoción de la vacunación, siendo una fuente de información preferida indicada por los usuarios.

DESCRITORES
Atención Primaria de Salud; Programas de Inmunización; Usuários; Vacunación.

REFERENCES

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COLLABORATIONS
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