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The Persuasive Appeal of Provider-Patient Interaction in the Acceptance of COVID-19 Vaccine at a Health Service Unit in Isabela

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Abstract. The study examined the persuasive appeal of provider-patient interactions in a health service unit in Isabela, focusing on vaccine acceptance. Using the Aristotle Rhetoric triangle framework, it analyzed the effectiveness of Logos, Pathos, and Ethos in influencing vaccine acceptance across different demographic groups. A mixed-methods descriptive design was employed, with quantitative data collected through surveys and qualitative data through focus interviews. The findings indicate that vaccine acceptance and hesitancy are complex and influenced by various factors including age and education. While healthcare providers effectively employ persuasive appeals, they may not significantly influence vaccine acceptance across different groups. Post-rollout opinions on the vaccine correlate with pre-rollout health beliefs, highlighting the importance of ongoing outreach and education efforts. Tailored communication strategies are crucial, addressing concerns among younger age groups and ensuring continuous training for healthcare providers. Additionally, factors beyond provider-patient interaction should be considered, including community engagement programs and long-term follow-up studies. Implementing these recommendations can effectively address vaccine hesitancy and promote widespread acceptance of the COVID-19 vaccine.

Keywords: Provider-patient interaction; Vaccine acceptance; Persuasive appeal; COVID-19 vaccine; Isabela healthcare.

1.0 Introduction

COVID-19 has had a significant impact on individuals worldwide, particularly healthcare workers who have been at the forefront of the pandemic response. Despite the rapid development of vaccines within a year of the virus's emergence, skepticism regarding their efficacy and safety persists among some populations.

With an initial target of vaccinating 70% of the population by the end of 2021, the Philippines commenced its mass vaccination campaign in February 2021. By the close of 2021, significant progress had been made, with over 70% of the population receiving at least one dose of the vaccine, according to data from the Department of Health Philippines. The Rural Health Unit (RHU) of Cabagan initiated its COVID-19 immunization program in March 2021 to vaccinate 70% of the local population. However, the program encountered challenges, including limited vaccine supply and community hesitancy.

Even before the availability of COVID-19 vaccines, social media platforms facilitated the spread of misinformation regarding vaccines, influencing public perception and acceptance negatively (Hammad, 2023). Vaccine hesitancy stems from various factors, including concerns about long-term side effects, mistrust in

vaccine development and distribution processes, and religious beliefs. Additionally, communication gaps between healthcare providers and patients exacerbate vaccine hesitancy, highlighting the importance of effective patient-provider interactions (Razai et al., 2021b). Effective communication during medical encounters is paramount for building trust and ensuring patient understanding (Ratna, 2019). Physicians must employ clear and empathetic communication strategies to address patient concerns and promote vaccine acceptance (Johnson et al., 2020).

Provider-patient interaction encompasses the exchange of health information and services between healthcare providers and patients (Murphy, n.d.). Studies emphasize the significance of physician-patient communication in influencing patient outcomes and satisfaction (Johnson, 2019). Providers who prioritize patient-centered care and tailor their communication to address patient concerns are more likely to persuade patients to accept vaccination (Cannity, 2023).

This study seeks to investigate the persuasive appeal of provider-patient interactions in COVID-19 vaccine acceptance. By examining patients' perceptions of provider communication and their decision-making regarding vaccination, this research aims to contribute to the understanding of effective health communication strategies. While rhetorical strategies have been extensively studied in other domains, such as advertising and politics, their application in healthcare communication remains understudied. This study posits that leveraging components of persuasion, including credibility, emotional appeal, and logical reasoning, can enhance vaccine acceptance rates. By elucidating the influence of provider-patient interactions on COVID-19 vaccine acceptance, this study endeavors to inform strategies aimed at improving vaccination uptake. Understanding the role of communication in shaping health behaviors is crucial for promoting public health initiatives, particularly during global health crises like the COVID-19 pandemic.

2.0 Methodology

2.1 Research Design

The mixed-method descriptive research design was utilized in this study. The quantitative research method, specifically the survey, served as the primary tool for gathering responses concerning respondents' socio-demographic characteristics and their level of agreement on the persuasive appeal of their interaction with providers. Focused interviews were also conducted with a subset of respondents to delve deeper into their responses to the survey questionnaire. This served as a form of triangulation, providing an in-depth understanding of their experiences regarding their interaction with providers and how it may have influenced their decision to accept, become hesitant, or decline the COVID-19 vaccine during its initial rollout.

2.2 Research Participants

Purposive sampling was employed to select 90 respondents from the categories of acceptors, hesitants, and decliners. An adequate sample size for each group was determined from the list of patients who registered at the Rural Health Unit of Cabagan, Isabela, for the first rollout of the COVID-19 vaccine in 2021, as well as from the list of residents in Cabagan, Isabela, who were personally visited by barangay health workers to encourage vaccination during the same period. Respondents were selected from barangays categorized as urban, highway, and riverside. Acceptors were defined as individuals who registered and received the vaccine on their scheduled appointment. Hesitants were identified as those who initially registered but chose not to accept the vaccine on the first scheduled date, later returning to the RHU Cabagan after deciding to receive the vaccine. Decliners were chosen from the list of eligible residents who had interactions with barangay health workers regarding the COVID-19 vaccine but ultimately decided not to accept or receive the vaccine.

2.3 Research Instrument

A structured questionnaire was developed to collect data for the study regarding the persuasive appeal of the provider-patient interaction during the first rollout of the COVID-19 vaccine. The questionnaire is divided into two main parts. The first part of the questionnaire gathered information on the socio-demographic characteristics of the respondents. The second part is designed to assess the level of agreement regarding the persuasive appeal of the provider's interaction with the patients. The statements in this part measured the respondents' agreement on the logical argument presented on COVID-19 by the provider, the emotional connection of the provider with the patient, and the credibility or character of the provider as they interacted

with the respondents. Before full implementation, the questionnaire underwent a pretest to ensure clarity, relevance, and effectiveness. Adjustments were made based on the results of the pretest. Additionally, guide questions were prepared for probing purposes during the interviews.

2.4 Data Gathering Procedure

Before commencing the study, a formal letter requesting permission for the researcher to conduct the study at the identified municipality's rural health clinic was personally delivered to the Municipal Health Officer (MHO) and barangay officials. Upon approval of the request, the researcher also sought a copy of the list of patients who registered during the first rollout of the COVID-19 vaccine from March 2021 to December 2021. Additionally, the list of residents who were visited by barangay health workers was secured. A pre-tested structured questionnaire was utilized to gather data from the selected respondents. Their consent to participate was solicited through an Informed Consent Form, indicating their voluntary participation.

2.5 Data Analysis Procedure

Both descriptive and inferential statistics were employed in analyzing the data. Frequency counts and percentages were utilized to present the socio-demographic profile of the respondents. Appropriate statistical tools were then applied to analyze the relationships between socio-demographic characteristics and the level of agreement on the persuasive appeal of the provider-patient interaction. Specifically, the Chi-Square Test was employed to identify any significant differences in the level of agreement among the acceptors, hesitants, and decliners. This test was also used to determine if a relationship exists between the patient's socio-demographic characteristics and their level of agreement in the persuasive appeal of their interaction with the providers. Moreover, the Chi-Square Test was utilized to ascertain if there was a shift in the health beliefs of the respondents regarding the COVID-19 vaccine after their interaction with the providers. The Chi-Square Test is suitable for determining whether or not there is a significant association between two categorical variables, making it a suitable statistical test for this study.

3.0 Results and Discussion

3.1 Socio-Demographic Characteristics of Respondents

Table 1 displays the distribution of respondents based on their age, gender, marital status, educational attainment, and monthly income. The characteristics of acceptors, hesitants, and decliners reveal both distinct patterns and similarities. Decliners tend to be predominantly between the ages of 48 and 57, hesitants between 18 and 27, and acceptors between 28 and 37. Gender distribution among the three groups is balanced, with approximately equal numbers of males and females. Marital status among decliners and hesitants is evenly split between single and married, whereas acceptors show a balance of single and married individuals. Similar observations, Marzo et al., (2022) revealed that several socio-demographic factors, including age, residential area, education level, family economic status, employment status, and country of residence, are associated with hesitancy in COVID-19 vaccine uptake. It also demonstrates that older populations are more likely than younger populations to express reservations about receiving vaccines.

In terms of educational attainment, most acceptors have completed high school (53.33%), with significant portions also having attained high school level (23.33%) and college level (6.67%). Hesitants are characterized by a higher presence in higher educational levels, with 50.00% having attained college level and 30.00% being college graduates, indicating a higher level of education compared to acceptors. Conversely, decliners' educational distribution is diverse, with notable concentrations in elementary level (23.33%) and high school graduate (23.33%) categories. The data suggests a relationship between educational backgrounds and group preferences, with acceptors displaying a broader range of educational levels, hesitants leaning towards higher education, and decliners exhibiting a more diverse distribution. In some studies, the level of education was also identified related to reluctance to use COVID-19 according to Marzo (2022). Notably, Lee and You (2022) discovered that college students were more likely to be vaccine-hesitant.

Distinct patterns also emerge in the monthly income distribution among the three groups. Acceptors most commonly fall within the 3,000-8,698 income bracket (16.67%), while a significant portion (43.33%) prefer not to disclose their income. Hesitants show reluctance to share income details, with 50.00% opting not to disclose. Among them, a significant number fall within the 3,000-8,698 income bracket (26.67%). Decliners exhibit the

highest preference for privacy, with 76.67% choosing not to disclose their income. Overall, respondents across all groups emphasize the sensitivity of financial information in the context of vaccine decision-making by choosing "prefer not to say."

The diversity revealed in demographic aspects underscores the complexity of vaccine acceptance dynamics, highlighting the need for customized communication approaches considering factors like age, education, and individual preferences within healthcare settings. Recognizing the unique characteristics within each group is crucial for healthcare providers to devise effective communication strategies during patient interactions in the service unit of Isabela.

Table 1. Socio-demographic characteristics of the respondents

Demographic Profile	Acceptors (n=30)		Hesitants (n=30)		Decliners (n=30)	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Age						
18-27	9	30.00%	14	46.67%	4	13.33%
28-37	13	43.33%	7	23.33%	5	16.67%
38-47	3	10.00%	3	10.00%	5	16.67%
48-57	3	10.00%	2	6.67%	9	30.00%
58-67	2	6.67%	1	3.33%	5	16.67%
68-77	-	-	2	6.67%	1	3.33%
78-87	-	-	1	3.33%	1	3.33%
Sex						
Male	13	43.33%	13	43.33%	15	50.00%
Female	17	56.67%	17	56.67%	15	50.00%
Marital Status						
Single	15	50.00%	16	53.33%	12	40.00%
Married	15	50.00%	13	43.33%	17	56.67%
Widowed	-	-	1	3.33%	1	3.33%
Educational Attainment						
Elementary Level	1	3.33%	1	3.33%	7	23.33%
Elementary Graduate	4	13.33%	1	3.33%	4	13.33%
High school level	7	23.33%	1	3.33%	6	20.00%
High School Graduate	16	53.33%	2	6.67%	7	23.33%
College Level	2	6.67%	15	50.00%	4	13.33%
College Graduate	-	-	9	30.00%	2	6.67%
Master's Graduate	-	-	1	3.33%	-	-
Monthly Income						
3,000-8,698	5	16.67%	8	26.67%	1	3.33%
8,699-14,397	5	16.67%	2	6.67%	1	3.33%
14,398-20,096	2	6.67%	2	6.67%	3	10.00%
20,097-25,795	1	3.33%	1	3.33%	-	-
31,495-37,193	3	10.00%	2	6.67%	1	3.33%
37,194-42,892	1	3.33%	-	-	1	3.33%
Prefer not to say	13	43.33%	15	50.00%	23	76.67%

3.2 Level of Agreement of The Respondents Towards the Persuasive Appeal of Providers Presentation of Logical Argument (LOGOS)

The respondents consistently express strong agreement regarding the allocation of adequate time by healthcare providers to explain the COVID-19 vaccine. This is reflected in consistently high levels of agreement and strong agreement across various indicators, underscoring the effectiveness of the communication strategies employed by the providers. Furthermore, the provider consistently cited enough evidence to support conclusions about the effectiveness of the COVID-19 vaccine, as evidenced by weighted scores of 4.40 from acceptors, 4.00 from hesitants, and 4.07 from decliners. The provider also presented clear and logical arguments supported by evidence and facts, such as statistical data and scientific research, earning high scores from all categories (4.37, 4.00, and 4.12 respectively).

Table 2 illustrates that the provider utilizes clear, concise, and easy-to-understand language during interaction. Scores for this aspect range from 4.63 to 4.37, indicating strong agreement across all groups – acceptors, hesitants, and decliners alike. This suggests that the communication style effectively conveyed information about the COVID-19 vaccine to a diverse audience. The provider received positive feedback regarding the description of information on the COVID-19 vaccine, its benefits, and potential hazards. Predominantly,

respondents strongly agreed with acceptors giving a score of 4.57, hesitants 4.17, and decliners 4.03. This indicates that the information provided by the provider was comprehensive and addressed patient concerns related to the vaccine's impact on health.

Furthermore, the provider's communication about the testing and safety of the COVID-19 vaccine was well-received across all groups, with scores ranging from 4.43 to 4.24. This suggests that information about the vaccine's safety and efficacy was effectively communicated, irrespective of the initial stance on vaccination. Moreover, the provider effectively emphasized the importance of vaccination as the best way to protect oneself and others from COVID-19. Scores for this aspect ranged from 4.20 to 4.14, indicating agreement from all respondents. Additionally, the provider's emphasis on the safety and effectiveness of the vaccine, the importance of herd immunity, and the collective responsibility to stop the spread of COVID-19 received high scores. Strongly agree scores across the board (4.57, 4.20, 4.50, and 4.42) suggest that the provider effectively conveyed the broader societal implications of vaccination.

The provider consistently received high scores in terms of time allocation, ranging from 4.40 to 4.28. This indicates that sufficient time was allotted to explain the COVID-19 vaccine to individuals in all three categories, contributing to a comprehensive understanding of the topic. Additionally, it was found that respondents often base their trust on a logical assessment of the qualifications and skills of healthcare workers. Follow-up questions revealed that most answers were consistent and strongly agreed. Patients acknowledged that providers, whether doctors or midwives, are well-informed due to their professional background, education, and specialization in science and health. One patient stated, "They studied medicine, so they know that the vaccine is safe." Moreover, knowing that the provider was among the first batch to receive the vaccine also provided reassurance of safety. The emphasis on healthcare providers undergoing training and orientation, especially in the context of COVID-19, reflects a logical basis for patients to trust the provider, as it implies a commitment to staying informed and competent.

Table 2. Respondents' level of agreement on the persuasive appeal (logos) of the providers based on the presentation of the logical arguments for covid-19 vaccine

Presentation of the logical argument (LOGOS)	ACCEPTORS		HESITANTS		DECLINERS		OVERALL	
	Weighted Score	Verbal Description	Weighted Score	Verbal Description	Weighted Score	Verbal Description	Weighted Score	Verbal Description
The provider cited enough evidence to support the conclusion about the effectiveness of COVID19 vaccine.	4.40	Strongly Agree	4.00	Agree	4.07	Agree	4.16	Agree
The provider provided a clear and logical arguments that are supported by evidence and facts, such as presenting statistical data, scientific research, or other forms of evidence that support the argument on the efficacy of COVID 19 vaccine.	4.37	Strongly Agree	4.00	Agree	4.00	Agree	4.12	Agree
The provider used words that are clear, concise, and easy to understand.	4.63	Strongly Agree	4.23	Strongly Agree	4.23	Strongly Agree	4.37	Strongly Agree
The provider described the information on COVID19 vaccine, its benefits and hazards which may harm my health.	4.57	Strongly Agree	4.17	Agree	4.03	Agree	4.26	Strongly Agree
The provider discussed to me that the vaccine has been rigorously tested and shown to be safe and effective in preventing COVID-19.	4.43	Strongly Agree	4.20	Strongly Agree	4.10	Agree	4.24	Strongly Agree
The provider carefully explained to me that getting vaccinated is the best way to protect oneself and others from COVID-19.	4.20	Strongly Agree	4.17	Agree	4.07	Agree	4.14	Agree
The provider emphasized the safety and effectiveness of the vaccine, the importance of herd immunity, and the collective responsibility to stop the spread of COVID-19.	4.57	Strongly Agree	4.20	Strongly Agree	4.50	Strongly Agree	4.42	Strongly Agree
Enough time was allotted by the provider to explain the COVID19 vaccine.	4.40	Strongly Agree	4.20	Strongly Agree	4.23	Strongly Agree	4.28	Strongly Agree

3.3 Emotional Connection of the Provider with the Patient (PATHOS)

Table 3. Respondents' level of agreement on the persuasive appeal of the providers based on the emotional connection of the provider with the patient

Emotional connection of the provider with the patient (PATHOS)	ACCEPTORS		HESITANTS		DECLINERS		OVERALL	
	Weighted Score	Verbal Description	Weighted Score	Verbal Description	Weighted Score	Verbal Description	Weighted Score	Verbal Description
The provider maintained eye contact with me	4.30	Strongly Agree	4.10	Agree	4.53	Strongly Agree	4.31	Strongly Agree
The provider listened actively to me and exhibit good communication counseling skills	4.47	Strongly Agree	4.13	Agree	4.43	Strongly Agree	4.34	Strongly Agree
The provider use appropriate language in talking to me	4.63	Strongly Agree	4.27	Strongly Agree	4.47	Strongly Agree	4.46	Strongly Agree
The provider encourages my participation in the interaction	4.53	Strongly Agree	4.07	Agree	4.27	Strongly Agree	4.29	Strongly Agree
The provider shows an interest in me as a person	4.37	Strongly Agree	4.10	Agree	4.23	Strongly Agree	4.23	Strongly Agree
The provider assures me of confidentiality	4.60	Strongly Agree	4.20	Strongly Agree	4.30	Strongly Agree	4.37	Strongly Agree
Provider treats me with dignity and respect	4.50	Strongly Agree	4.33	Strongly Agree	4.40	Strongly Agree	4.41	Strongly Agree
The provider listened to me actively when I shared my opinions about the vaccine.	4.53	Strongly Agree	4.20	Strongly Agree	4.50	Strongly Agree	4.41	Strongly Agree
The provider allowed me to complete my responses	4.53	Strongly Agree	4.20	Strongly Agree	4.37	Strongly Agree	4.37	Strongly Agree
The provider spoke respectfully to me when I had a different opinion and perspective on COVID 19 vaccine.	4.53	Strongly Agree	4.27	Strongly Agree	4.33	Strongly Agree	4.38	Strongly Agree

Table 3 illustrates the level of agreement regarding the persuasive appeal of healthcare providers based on the emotional connection established during interactions, which is overwhelmingly positive. The provider received high scores across all respondents, indicating a strong emotional connection with patients of various perspectives.

Maintaining eye contact was rated positively by all groups, with scores ranging from 4.30 to 4.53. This suggests that the provider effectively engaged with patients by establishing visual connections, creating a sense of trust and attentiveness. Furthermore, active listening and good communication counseling skills were highly valued by the respondents, with scores ranging from 4.34 to 4.47. This indicates that the provider demonstrated empathy and effective communication, fostering a positive emotional connection during interactions.

The use of appropriate language in communication also received strong agreement, ranging from 4.46 to 4.63. This suggests that the provider's language was respectful and considerate, contributing to a positive emotional experience for patients. Encouraging patient participation in interactions and showing genuine interest in patients as individuals were consistently rated highly, with scores ranging from 4.27 to 4.53. This indicates that the provider successfully engaged patients and made them feel valued during discussions.

Strong agreement was received in terms of assuring confidentiality and treating patients with dignity across all categories (4.30 to 4.60). This suggests that the provider prioritized patient privacy and treated individuals with dignity and respect, contributing to a positive emotional connection.

When patients shared their opinions about the vaccine, the provider actively listened and allowed them to complete their responses, earning strong agreement scores ranging from 4.37 to 4.53. This indicates that the provider created an open and supportive environment for patients to express their views. Even when patients had different opinions on the COVID-19 vaccine, the provider spoke respectfully, with scores ranging from 4.27 to 4.53. This suggests that the provider maintained a non-judgmental and respectful approach, fostering a positive emotional connection despite differing perspectives.

The emotional connection is crucial in the context of discussions about the COVID-19 vaccine, as it contributes to building trust and encouraging open communication. Some respondents expressed trust in their community's long-time midwife, emphasizing the personal relationship that develops over time. The feelings of security and safety arise from the healthcare providers' empathy, understanding, and assurance that their decisions are made with the patient's well-being in mind.

The provider demonstrated a strong emotional connection with patients by engaging in active listening, using appropriate language, encouraging participation, and treating individuals with dignity and respect, regardless of their initial stance on the COVID-19 vaccine. This finding holds valuable implications for healthcare professionals, emphasizing the importance of interpersonal skills in enhancing the persuasive appeal and positively influencing patient attitudes toward COVID-19 vaccination.

3.4 Credibility of the Provider

Table 4. Respondents' level of agreement on the persuasive appeal of the providers based on the credibility or character of the provider

Credibility or character of the provider (ETHOS)	ACCEPTORS		HESITANTS		DECLINERS		OVERALL	
	Weighted Score	Verbal Description	Weighted Score	Verbal Description	Weighted Score	Verbal Description	Weighted Score	Verbal Description
The healthcare provider led me to feel comfortable with information about COVID19 vaccine.	4.40	Strongly Agree	4.33	Strongly Agree	4.37	Strongly Agree	4.37	Strongly Agree
The healthcare provider was someone worth listening to.	4.37	Strongly Agree	4.20	Strongly Agree	4.17	Agree	4.24	Strongly Agree
The provider was well informed and genuinely interested in the topic.	4.43	Strongly Agree	4.13	Agree	4.30	Strongly Agree	4.29	Strongly Agree
The provider demonstrated familiarity with different opinions and perspective.	4.33	Strongly Agree	4.23	Strongly Agree	4.33	Strongly Agree	4.30	Strongly Agree
The provider provided a complete and accurate information about the information I wanted to know.	4.40	Strongly Agree	4.20	Strongly Agree	4.30	Strongly Agree	4.30	Strongly Agree
The provider clarified and summarized the information	4.30	Strongly Agree	4.30	Strongly Agree	4.27	Strongly Agree	4.29	Strongly Agree
The provider demonstrated good communication and counseling skills	4.33	Strongly Agree	4.20	Strongly Agree	4.23	Strongly Agree	4.26	Strongly Agree
The provider discussed with me the benefits of the vaccine.	4.43	Strongly Agree	4.20	Strongly Agree	4.20	Strongly Agree	4.28	Strongly Agree
Information about COVID19 vaccine had been discussed very well before I got vaccinated	4.40	Strongly Agree	4.33	Strongly Agree	4.50	Strongly Agree	4.41	Strongly Agree

In evaluating the credibility or character of the provider (ETHOS), the healthcare provider consistently received high scores across all categories, reflecting a strong sense of trustworthiness and credibility among patients with varying perspectives (see Table 4).

Patients across all categories strongly agreed that the healthcare provider made them feel comfortable with information about the COVID-19 vaccine, with scores ranging from 4.37 to 4.40. This suggests that the provider effectively reassured patients, fostering a sense of comfort. Moreover, the provider was perceived as someone worth listening to by all groups, with scores ranging from 4.20 to 4.37. This indicates that the healthcare provider's credibility and authority were recognized, contributing to a positive perception among patients.

Additionally, demonstrating well-informed and genuine interest in the topic, the provider received strong agreement scores across all categories, ranging from 4.13 to 4.43. This suggests that the healthcare provider's knowledge and enthusiasm positively influenced the perception of their credibility. Furthermore, the provider's familiarity with different opinions and perspectives was acknowledged by patients in all categories, with scores ranging from 4.23 to 4.33. This indicates that the provider was open-minded and receptive to diverse viewpoints, contributing to a positive perception of their character.

Patients strongly agreed that the provider provided complete and accurate information about the COVID-19 vaccine, with scores ranging from 4.20 to 4.40. This suggests that the healthcare provider was reliable in delivering comprehensive and precise information, enhancing their credibility. Moreover, clarifying and summarizing information received strong agreement scores across all categories, ranging from 4.27 to 4.30. This

indicates that the provider effectively communicated complex information, ensuring a clear understanding among patients.

Patients across all categories strongly agreed that the provider demonstrated good communication and counseling skills, with scores ranging from 4.20 to 4.33. This suggests that the healthcare provider effectively conveyed information and provided support during discussions about the COVID-19 vaccine. Additionally, discussing the benefits of the vaccine received strong agreement scores from all groups, ranging from 4.20 to 4.43. This indicates that the provider effectively communicated the positive aspects of vaccination, contributing to a positive perception among patients.

Furthermore, patients strongly agreed that information about the COVID-19 vaccine had been discussed well before they got vaccinated, with scores ranging from 4.33 to 4.50. This suggests that the provider ensured thorough communication and understanding of vaccine-related information before patients made decisions about vaccination.

The perceived credibility of healthcare professionals is a crucial factor in fostering positive attitudes and acceptance towards the COVID-19 vaccine. The findings suggest that the providers were not only well-informed but also skilled in communicating complex information clearly and reassuringly. This has significant implications for healthcare communication strategies, emphasizing the importance of building credibility and trust to enhance the overall persuasive appeal of information related to COVID-19 vaccination.

Credibility is established through the respondents' belief in the healthcare providers' professional commitment and ethical responsibility. Most of the patients interviewed acknowledged that providers study, specialize, and undergo assessments before vaccination, which contributes to their credibility. They perceive the providers as appropriate individuals for their roles, emphasizing a sense of trust built on the credibility of their education, expertise, and commitment to their profession.

As shown in Table 5, the overall positive responses to all three persuasive appeals (Logos, Pathos, Ethos) prove that the respondents are receptive to a variety of persuasive communication strategies by the providers related to the rollout of the COVID-19 vaccine. The absence of "Strongly Disagree" or low-rated responses suggests that respondents mostly support and agree with the provided appeals. Similar observations were also found in a study in Nepal, in which most of the patient find their consolation with the healthcare providers very satisfying and most doctors manage to gain the trust of their patients. Furthermore, the study revealed that all logical appeals, credibility and emotional appeals independently are proven to be effective in patient-doctor communication in a Nepali, hospital Duwadi (2019).

This implies that a combination of logical arguments, emotional appeals, and appeals to credibility are effective in influencing respondents' acceptance of COVID-19 vaccines. The findings can be a guide to communication strategies aiming to enhance vaccine acceptance by leveraging a diverse range of persuasive appeals tailored to the preferences and attitudes of the target audience.

Table 5. Summary of the level of agreement of the respondents towards the persuasive appeal of providers

Persuasive Appeal	Response Groups			Overall Average	Adjectival Rating
	Acceptors	Decliners	Hesitants		
Presentation of Logical Argument	4.45	4.15	4.15	4.25	Strongly Agree
Appeal to Pathos	4.50	4.38	4.19	4.36	Strongly Agree
Appeal to Ethos	4.38	4.30	4.24	4.30	Strongly Agree

3.5 Level of Agreement of the Acceptors, Hesitants, and Decliners on the Persuasive Appeal of their Interactions with the Providers

The Chi-Square test was conducted to investigate whether there was a significant difference in the level of agreement among acceptors, hesitants, and decliners regarding the persuasive appeals (LOGOS, PATHOS, ETHOS) employed by the providers. As shown in Table 6, the Chi-Square values for LOGOS, PATHOS, and ETHOS were 0.0607, 0.2650, and 0.4279 respectively, with corresponding p-values exceeding the significance

level of 0.05. This indicates that, within the sample of 90 respondents, there is no significant difference in the level of agreement among acceptors, hesitants, and decliners for any of the persuasive appeals used by the providers during their interactions with patients.

These findings suggest that the persuasive appeal utilized in provider-patient interactions may not be a significant factor in influencing COVID-19 vaccine acceptance among different vaccine response groups in the specified service unit in Isabela. Whether providers presented logical arguments, appealed to emotions (pathos), or emphasized ethical considerations (ethos), the observed patterns of responses remained consistent across acceptors, hesitants, and decliners. These results highlight the possibility that other factors, such as individual beliefs, cultural context, or broader societal influences, may play a more prominent role in shaping vaccine acceptance within this specific population.

Table 6. Chi-square test results for the relationship between vaccine response groups and the persuasive appeal of provider-patient interaction for COVID-19 vaccine acceptance in a service unit in Isabela

Particular	Chi-Square p-value		
	Presentation of the logical argument for COVID-19	**Appeal to Pathos**	**Appeal to Ethos**
Vaccine Response Groups	0.0607	0.2650	0.4279

means significant relationship between the Vaccine Response Groups and the Persuasive Appeal of Provider-Patient Interaction for Covid-19 Vaccine Acceptance in a Service Unit in Isabela n=90, $\alpha = 0.05$

3.6 Patients' Socio-Demographic Characteristics and Their Level of Agreement on the Persuasive Appeal of their Interaction with the Providers

Table 7. Chi-square test results for the relationship between demographic profile and the persuasive appeal of provider-patient interaction for COVID-19 vaccine acceptance in a service unit in Isabela

Demographic Profile	Chi-Square p-value		
	Logical Argument (Logos)	**Appeal to Pathos**	**Appeal to Ethos**
Age	0.1151	0.4094	0.2692
Sex	0.578	0.2536	0.6998
Marital Status	0.1912	0.9916	0.3791
Educational Attainment	0.4751	0.2444	0.3976

means significant relationship between the demographic profile and the Persuasive Appeal of Provider-Patient Interaction for Covid-19 Vaccine Acceptance in a Service Unit in Isabela. n=90, $\alpha = 0.05$

Table 7 shows the Chi-Square test results for the relationship between demographic profiles and the persuasive appeal of provider-patient interaction for COVID-19 vaccine acceptance in a service unit in Isabela. It reveals a non-significant finding across various demographic factors. The analyzed data of the respondents' age, sex, marital status, and educational attainment do not significantly influence the level of agreement on three different persuasive appeals – logical argument, appeal to pathos, and appeal to ethos.

For age, the Chi-Square values, and corresponding p-values (0.1151, 0.4094, 0.2692) indicate no statistical significance. The same holds for sex, where the p-values (0.5782, 0.2536, 0.6998) demonstrate no substantial relationship. Marital status, with Chi-Square values of (0.1912, 0.9916, 0.3791) and p-values exceeding 0.05, also fails to show significance. Similarly, educational attainment, with Chi-Square values of (0.4751, 0.2444, 0.3976) and p-values above the threshold, indicates no noteworthy association. Some study such as Marzo et al., (2022) revealed that the place of residence was identified as a significant factor that may influence COVID-19 acceptance and uptake and the effectiveness and uptake of COVID-19 vaccines were more likely to be supported by city residents.

Therefore, with all p-values exceeding the significance level of 0.05, shows that respondents across different demographic profiles within the Isabela service unit exhibit comparable patterns of agreement or disagreement regarding the persuasive appeal of provider-patient interaction for COVID-19 vaccine acceptance. This concludes that the demographic characteristics of respondents do not seem to be a factor influencing the level of agreement on the Persuasive Appeal of Provider-Patient Interaction for Covid-19 Vaccine Acceptance in a Service Unit in Isabela.

3.7 Health Beliefs of the Respondents Regarding the COVID-19 Vaccine After Their Interaction with The Providers

This study also investigates the relationship between individuals' pre-rollout health beliefs and their post-rollout views on the COVID-19 vaccine. A chi-square analysis was conducted, yielding a highly significant p-value of 0.0000, indicating a strong statistical association. The study, based on a sample size of 90 participants, concludes that there is a substantial change in health beliefs after the vaccine rollout. This implies that people's initial attitudes towards the vaccine are related to their opinions about it after the rollout, suggesting a connection between pre-existing health beliefs and subsequent perspectives on the vaccine. The respondent's initial beliefs about the vaccine seem to influence how they feel about the vaccine after experiencing the rollout. Similarly, a study in China, discovered that anxiety and depression levels decrease significantly after vaccination compared to before vaccination (Yuan et al., 2021).

A few responses during the interview about the before and after the vaccine rollout were "*At first I didn't believe in the vaccine, but when many people were vaccinated, I also believed in the vaccine too. People's lives became safe at least the case of Covid decreased*". Some answers were "*I understand the concern about the potential ineffectiveness of the medicine, especially since it was developed quickly. However, many people benefit from receiving the COVID-19 vaccine, which helps reduce cases and the risk of illness for others*".

Furthermore, it implies that people's attitudes and beliefs about the vaccine seem to be influenced by their experiences and observations after the vaccine became widely available. The study suggests that the rollout of the vaccine has had a notable impact on shaping and possibly altering people's perspectives and opinions regarding the COVID-19 vaccine.

4.0 Conclusion

Based on the analyzed demographic profile of the respondents, vaccine acceptance and hesitancy are multifaceted phenomena influenced by various factors such as age, education and income disclosure reluctance. Healthcare providers have effectively employed logical arguments, emotional connection and credibility, fostering confidence and trust among the respondents. However, the provider-patient interaction's persuasive appeal might not significantly impact COVID-19 vaccine acceptance among different response groups, necessitating consideration of alternative factors. Within Isabela's service unit, respondents from diverse demographics exhibit similar levels of agreement or disagreement regarding provider-patient interaction's persuasive appeal. Demographic characteristics seem to have minimal influence on agreement levels. Notably, a significant association exists between pre-rollout health beliefs and post-rollout vaccine views, indicating substantial shifts in perspectives following vaccination. Recognize that the persuasive appeal used in provider-patient interaction may not be the sole factor influencing COVID-19 vaccine acceptance. Study additional variables or factors that may play a substantial role in shaping perceptions of provider-patient interactions related to vaccine acceptance. Healthcare provider must be culturally competent and sensitive to the diverse background of patients and establish a system for continuous monitoring and evaluation of vaccine acceptance trends and to further improve the provider-patient interaction in the service unit of Isabela.

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7.0 Conflict of Interests

The author declares no conflicts of interest

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9.0 References

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