Parent Knowledge, Attitude, Belief, Accessibility of Vaccine, and Vaccination Status of their Children

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ABSTRACT

Purpose: This study aimed to describe parents' knowledge, attitudes, and beliefs regarding childhood vaccination, the accessibility of vaccination services, and the vaccination status of their children in Barangay Lahug, Cebu City. It also sought to provide information that may serve as a basis for a proposed Parental Health Education Program.

Method: The study employed a quantitative descriptive survey research design. Data were gathered from parents or primary caregivers of children aged 0–59 months residing in Barangay Lahug, Cebu City, using a structured questionnaire. Respondents were selected through purposive sampling based on the study's inclusion criteria. The questionnaire covered the respondents' demographic profile, parents' knowledge, attitudes and beliefs regarding childhood vaccination, vaccine accessibility, and children's vaccination status. Frequency and percentage distribution, weighted mean, and standard deviation were used to summarize the responses. Pearson's product-moment correlation coefficient was also reported in the current analysis to examine the relationships between the study variables and children's vaccination status.

Result: The findings showed that parents' knowledge (M = 3.76, SD = 0.81), attitude (M = 3.71, SD = 1.01), and vaccine accessibility (M = 3.67, SD = 1.03) were rated High, while parents' beliefs (M = 3.25, SD = 1.10) were rated Moderate. The reported vaccination-status items obtained an overall mean of 3.55 (SD = 0.89), interpreted as High. The current correlation table also reports statistically significant relationships between knowledge, attitude, beliefs, and accessibility and children's vaccination status.

Conclusion: The descriptive findings indicate generally high ratings for parental knowledge, attitude, perceived vaccine accessibility, and the reported vaccination-status items, while beliefs were rated moderate. Concerns about vaccine safety, possible side effects, and barriers to accessing reliable information and services remain areas for parental education and community health support.

Key Words: Parental knowledge, attitudes and beliefs, vaccine accessibility, vaccination status, immunization coverage, child health, public health programs

INTRODUCTION

Childhood vaccination is recognized globally as one of the most cost-effective public health strategies for preventing infectious diseases and reducing child morbidity and mortality. According to the World Health Organization, immunization prevents millions of deaths each year by protecting children from vaccine-preventable diseases such as measles, polio, diphtheria, and tuberculosis. Despite these global gains, many countries continue to face challenges in achieving optimal vaccination coverage, resulting in outbreaks of preventable diseases and persistent health inequalities among vulnerable populations.

At the national level, the Philippines has made significant efforts to strengthen its Expanded Program on Immunization (EPI). However, childhood vaccination coverage has fluctuated in recent years due to multiple factors, including vaccine hesitancy, misinformation, health system limitations, and socioeconomic barriers. The decline in public trust following the Dengvaxia controversy heightened parental fear and uncertainty regarding vaccine safety, leading to delayed or incomplete immunization among children. These national challenges highlight the need to understand better the factors that influence parents' decisions regarding childhood vaccination.

One of the most influential factors affecting vaccination uptake is parental knowledge. Knowledge refers to parents' understanding of the purpose of vaccines, recommended immunization schedules, vaccine-preventable diseases, and potential side effects. Parents who possess adequate and accurate knowledge are more likely to comply with immunization schedules, while those with limited or incorrect information may develop doubts that hinder timely vaccination. Inadequate knowledge often becomes the foundation for negative attitudes and misconceptions about vaccines.

Parental attitudes and beliefs further shape vaccination behavior. Attitude reflects parents' overall acceptance or hesitancy toward vaccination, while belief encompasses perceptions regarding vaccine safety, effectiveness, necessity, and perceived risks. Even when vaccination services are available, parents with unfavorable attitudes or strong negative beliefs may choose to delay or refuse immunization for their children. Cultural norms, previous experiences with healthcare services, social networks, and trust in health authorities and healthcare providers influence these attitudes and beliefs.

Beyond personal factors, access to vaccination services plays a crucial role in determining whether children are fully immunized. Accessibility of vaccines refers to the availability and ease with which parents can obtain vaccination services, including distance to health facilities, clinic schedules, availability of vaccine supplies, and indirect costs such as transportation and time away from work. In some communities, physical and logistical barriers persist, limiting parents' ability to translate positive knowledge and attitudes into actual vaccination behavior.

At the local level, Barangay Lahug in Cebu City reflects many of these national concerns. Despite being an urban barangay with access to health facilities, variations in parental knowledge, attitudes, beliefs, and accessibility to vaccination services may influence the vaccination status of children in the community. Understanding how these factors interact at the community level is essential for identifying gaps in immunization coverage and designing effective, context-specific interventions.

The interaction between parental knowledge, attitude, belief, and accessibility of vaccines ultimately influences the vaccination status of children. Examining these variables provides valuable insight into why some children remain partially vaccinated or unvaccinated despite the availability of immunization programs. This study is aligned with Sustainable Development Goal (SDG) 3: Good Health and Well-Being, which aims to end preventable deaths of children and strengthen immunization coverage, and SDG 10: Reduced Inequalities, which emphasizes equitable access to essential health services. By exploring these factors in Barangay Lahug, Cebu City, this study seeks to generate evidence that can guide nursing practice, community health programs, and local vaccination initiatives.

METHOD

Research Design

The study employed a quantitative descriptive survey research design to describe the parents' knowledge, attitudes, and beliefs regarding childhood vaccination, the accessibility of vaccination services, and the vaccination status of their children in Barangay Lahug, Cebu City. This research design was used to gather and quantify information from parents or primary caregivers of children aged 0–59 months through a structured questionnaire. The collected data were analyzed using frequency and percentage distribution, weighted mean, and standard deviation to describe the respondents' demographic profiles and responses to the study variables. Pearson's product-moment correlation coefficient was also included in the current statistical analysis to examine

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the relationships between parental knowledge, attitudes, beliefs, vaccine accessibility, and children's vaccination status.

Participants

The respondents were parents or primary caregivers of children aged 0–59 months who were residing in Barangay Lahug, Cebu City. The intended sample size was 100 respondents, based on the sample-size computation stated in the full research manuscript. Purposive sampling was used to recruit individuals who met the study's inclusion criteria: (1) being a parent or primary caregiver of a child aged 0–59 months; (2) residing in Barangay Lahug, Cebu City; and (3) being directly involved in decisions concerning the child's immunization. These criteria ensured that the participants had relevant experience with their children's vaccination.

Population

The study population consisted of all parents or primary caregivers of children aged 0–59 months residing in Barangay Lahug, Cebu City. These individuals were identified as the target population based on records from the Barangay Health Center and the Expanded Program on Immunization (EPI) registry. From this population, 100 qualified respondents were selected through purposive sampling based on the established inclusion criteria.

Measurement

Data were collected using a structured survey questionnaire developed with reference to related literature and previous studies on childhood vaccination. The questionnaire consisted of six parts: (1) demographic profile of the respondents; (2) parents' knowledge regarding childhood vaccination; (3) parents' attitudes toward vaccination; (4) parents' beliefs regarding vaccination; (5) accessibility of vaccination services; and (6) children's vaccination status. The knowledge section covered vaccine benefits, immunization schedules, safety, and vaccine-preventable diseases. The attitude and belief sections addressed acceptance, confidence, hesitancy, perceived benefits, safety, effectiveness, and possible risks. The accessibility section covered the items included in the questionnaire concerning access to vaccine information and vaccination services. The vaccination-status section asked about children's receipt of recommended vaccines and doses, with age eligibility considered where stated in the questionnaire.

Analysis

The collected data were coded, tabulated, and analyzed with the assistance of a statistician. Frequency and percentage distribution were used to describe the respondents' demographic profiles and the distribution of categorical responses. Weighted mean and standard deviation were used to summarize the respondents' answers to the scaled questionnaire items concerning knowledge, attitude, beliefs, vaccine accessibility, and children's reported vaccination status. Pearson's product-moment correlation coefficient was used in the current manuscript to examine the relationships between the study variables and children's vaccination status. The correlation findings are retained in this version and will be reviewed separately with the research adviser to ensure that the research design, objectives, and statistical treatment are consistently presented.

RESULT

Profile of the Respondents

This section outlines the respondents' demographic characteristics and the findings on parents' knowledge, attitudes, beliefs, access to vaccines, and their children's vaccination status in Barangay Lahug, Cebu City. The findings are presented through frequencies, percentages, weighted means, standard deviations, and the Pearson Product-Moment Correlation Coefficient to establish the relationships among the variables.

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Table 1 The Demographic Profile of the Respondents.

Profile of the Respondents		Frequency (f)	Percentage (%)
Age	18-20 years old	47	48.0
	21-30 years old	37	37.8
	31-50 years old	14	14.3
Educational Attainment	High School Graduate	21	21.4
	Less Than High School	14	14.3
	No Formal Schooling	22	22.4
	Technical School Graduate	19	19.4
	University/College	22	22.4
Employment Status	Employed	25	25.5
	Not Employed	30	30.6
	Self-Employed	43	43.9
Household Income	Less than Php 10,000	41	41.8
	Php 10,000 – Php 15,000	13	13.3
	Php 15,000 – Php 20,000	15	15.3
	More than Php 20,000	29	29.6

Table 1 reveals the demographic profile of the respondents, showing that most parents were young adults (18–30 years old), self-employed, from low-income households, and had limited formal education. These characteristics are associated with a higher risk of incomplete childhood vaccination. Studies show that low parental education and income hinder vaccination completion due to financial limitations, inadequate health literacy, and limited healthcare access (Restrepo-Méndez et al., 2021; Sato et al., 2021). Similarly, in Southeast Asia, children from low-income and informally employed households are more likely to miss scheduled vaccinations due to indirect costs, such as transportation and lost wages, even when vaccines are free (Figueroa et al., 2022). This implies that the respondents' socioeconomic characteristics place their children at greater risk of under-vaccination.

Level of Parents' Knowledge Regarding Vaccination

This refers to the parents' understanding of childhood immunization, including vaccine effectiveness, protection against vaccine-preventable diseases, and recommended immunization guidelines.

Table 2 Level of Parents' Knowledge Regarding Vaccination

Item	Mean	SD	Interpretation
Childhood vaccines are effective in protecting my child from serious disease.	4.76	0.43	Very High
Vaccines make the immune system stronger	4.52	0.52	Very High
Vaccination is for all ages, not only children.	4.76	0.43	Very High
No need for polio or measles vaccine anymore because of the eradication of these diseases	2.53	1.28	Low
There are situations in which you can't give live vaccines (MMR, Varicella, OPV).	3.57	0.98	High
A healthy child does not need vaccination.	2.11	1.25	Low
There is a uniform immunization guideline for pediatric patients.	4.13	0.84	High
OVERALL MEAN	3.76	0.81	High

Table 2 reveals the mean score of parents' knowledge regarding vaccination. It garnered an overall mean score of 3.76, interpreted as high. Of the seven indicators, "Childhood vaccines are effective in protecting my child from serious disease" and "Vaccination is for all ages, not only children" obtained the highest mean score of 4.76, interpreted as very high. This indicates that parents have a strong understanding of the importance of vaccination in preventing serious illnesses and protecting children's health.On the other hand, the indicator "A healthy child does not need vaccination" obtained the lowest mean score of 2.11, interpreted as low, followed by the statement regarding the eradication of polio and measles, with a mean score of 2.53. This suggests that

parents generally recognize the continued importance of immunization even when children are healthy or certain diseases have become less common.These findings imply that parents possess a high level of knowledge regarding childhood vaccination. However, continuous health education remains necessary to strengthen their understanding of immunization schedules, vaccine safety, and contraindications.

Parents Attitude Regarding Vaccination

This refers to the parents' perceptions, willingness, acceptance, and hesitancy toward childhood immunization. It includes their confidence in vaccine information, willingness to follow healthcare providers' recommendations, and concerns regarding vaccination.

Table 3 Level of Parents' Attitude Regarding Vaccination

Item	Mean	SD	Interpretation
8. Having my child vaccinated is important for the health of others in my community.	4.61	0.55	Very High
9. I don't mind having my child receive more than 5 types of vaccine in one visit (one or two injections).	3.46	1.06	High
10. I trust the information I receive about shots.	3.00	1.33	Moderate
11. I have often been reluctant or hesitant to get a vaccination for my child.	4.33	0.62	Very high
12. I know parents who do not vaccinate their children because of religious or cultural reasons.	3.00	1.18	Moderate
13. Generally, I do what my doctor recommends about vaccines for my child/children.	3.73	1.08	High
14. If you had another baby today, would you want him/her to get all the recommended shots?	4.15	0.89	High
15. I hesitate to accept childhood vaccines due to concerns about the number of shots, safety, necessity, effectiveness, and possible side effects.	3.42	1.08	High
16. Overall, I consider myself hesitant about childhood vaccines.	3.73	1.08	High
17. I am in favor of vaccination.	4.32	0.77	Very High
18. I recommend vaccination to others.	3.85	1.16	High

19. The maximum number of vaccine injections I am comfortable for my child to get per visit is:	3.00	1.33	Moderate
OVERALL MEAN	3.71	1.01	High

Table 3 illustrates the mean score of parents' attitudes toward vaccination. It obtained an overall mean score of 3.71, interpreted as high. Among the indicators, "Having my child vaccinated is important for the health of others in my community" received the highest mean score of 4.61, interpreted as very high. It is followed by "I have often been reluctant or hesitant to get a vaccination for my child," with a mean score of 4.33, and "I am in favor of vaccination," with a mean score of 4.32. This indicates that although parents recognize the importance of vaccination and generally support immunization, hesitation remains evident among some respondents. On the other hand, the indicators concerning trust in vaccine information and the maximum number of vaccine injections parents are comfortable with obtained the lowest mean score of 3.00, both interpreted as moderate. These findings imply that favorable attitudes toward vaccination do not necessarily eliminate parental hesitation. Concerns regarding vaccine safety, the number of injections, and the reliability of vaccine information may still influence parents' decisions regarding their children's immunization.

Parents' Belief Regarding Vaccination

This refers to the parents' perceptions and convictions regarding vaccine safety, effectiveness, benefits, and possible adverse effects. These beliefs may influence their decisions to accept, delay, or refuse childhood vaccination.

Table 4 Level of Parents' Belief Regarding Vaccination

Item	Mean	SD	Interpretation
It is better for my child to develop immunity by getting sick than by getting vaccinated.	3.46	1.06	High
New vaccines carry more risks than older vaccines.	2.80	1.33	Moderate
My child is getting too many vaccines (10–15) during the first two years of life which may weaken the immune system.	3.1	1.04	High
Vaccines are not tested enough for safety.	3.27	1.23	Moderate
Vaccines are given to children to prevent diseases that are not serious.	2.62	1.22	Moderate
Harmful effects of vaccines are more than the benefits.	2.68	1.27	Moderate
There is an alternative way (hygiene or better nutrition) to protect my child from infection instead of vaccinating.	3.1	1.3	Moderate
I am concerned about serious adverse effects of vaccines.	2.44	1.25	Moderate
I am concerned that newer vaccines are not as safe as older vaccines because they haven't been tested or tracked for as long.	3.01	1.33	Moderate

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I am concerned mostly about fever or rash, diarrhea, seizures, infection, and other side effects of vaccines.	4.37	0.6	Very High
I am concerned that childhood vaccines might not be safe (might have a serious side effect).	3.8	1.01	High
I am concerned that a vaccine might not prevent the disease.	4.37	0.6	High
OVERALL MEAN	3.25	1.10	Moderate

Table 4 presents the mean score of parents' beliefs regarding vaccination. It obtained an overall mean score of 3.25, interpreted as moderate. Of the twelve indicators, concerns regarding possible vaccine side effects, such as fever, rash, diarrhea, seizures, and infections, received the highest mean score of 4.37, interpreted as very high. It is followed by concerns that vaccines might not prevent diseases, with a mean score of 4.37, interpreted as high.On the other hand, the indicator concerning serious adverse effects of vaccines obtained the lowest mean score of 2.44, interpreted as moderate. This suggests that although parents express concerns regarding vaccination, the extent of their beliefs and perceptions varies. These findings imply that parental beliefs regarding vaccination are influenced by concerns about safety, effectiveness, and possible adverse reactions. Therefore, healthcare providers must provide accurate information and appropriate counseling to address misconceptions and strengthen parental confidence in childhood immunization.

Vaccine Status

This refers to the availability and accessibility of vaccination services, including parents' access to vaccine information, satisfaction with immunization programs, and factors that may cause delays or refusal of vaccination.

Table 5.0 Vaccine Status

Item	Mean	SD	Interpretation
Filipino parents are getting enough information about vaccines and their safety.	3.01	1.33	Moderate
Many Filipinos face barriers to vaccination, including lack of awareness, financial constraints, fear, and limited access/availability.	4.37	0.6	Very High
I usually obtain vaccine information from my doctor, TV programs, internet/social media, friends, school, and other sources.	3.65	1.13	High
School-organized meetings between parents and pediatricians are the best way to raise vaccination awareness.	3.01	1.33	Moderate
I am satisfied with the vaccination program offered by the Department of Health.	4.37	0.6	Very High
I have refused or delayed my child’s vaccination because of reasons such as thinking it was not needed, safety concerns, lack of access or reliable information, fear of needles or side effects, a past bad reaction, or religious reasons.	3.73	1.08	High

My child has received all vaccines recommended by their pediatrician.	4.32	0.77	Very High
I have avoided or delayed the rotavirus vaccine for my child because of missed schedule, cost, fear of diarrhea, or lack of pediatrician recommendation.	3.85	1.16	High
I have avoided or delayed the yearly flu vaccine for my child because of missed schedule, cost, fear it might cause flu, belief that flu is not fatal, or lack of doctor recommendation.	3.00	1.33	Moderate
HPV vaccination for my child is necessary to prevent cervical cancer and cervical warts.	3.46	1.06	High
OVERALL MEAN	3.67	1.03	High

Table 5 reveals the mean score of vaccine accessibility among the respondents. It garnered an overall mean score of 3.67, interpreted as high. Of the ten indicators, the statements concerning barriers to vaccination and satisfaction with the vaccination program obtained the highest mean score of 4.37, interpreted as very high. It is followed by the indicator "My child has received all vaccines recommended by their pediatrician," which obtained a mean score of 4.32, interpreted as very high. This indicates that respondents generally recognize the availability and importance of immunization services.On the other hand, the indicator concerning the avoidance or delay of yearly influenza vaccination obtained the lowest mean score of 3.00, interpreted as moderate. This suggests that parents have varying experiences and perceptions regarding access to specific vaccines.The findings imply that although vaccine accessibility is generally high, financial limitations, fear, lack of information, and missed vaccination schedules remain concerns. These barriers may affect the timely and complete immunization of children.

Vaccination Status of Children

This refers to the extent to which children have received the recommended vaccines based on their immunization schedules. It includes birth-dose vaccines, primary infant immunization, booster doses, and other age-appropriate vaccines.

Table 6 Vaccination Status of Children Based on Parent's Reported Response

Item	Mean	SD	Interpretation
To what extent do you agree that your child's vaccination card is up to date?	3.46	1.06	High
To what extent do you agree that your child received the birth-dose vaccines (BCG and HepB)?	4.76	0.43	Very High
To what extent do you agree that your child completed the primary infant series (DTP, polio, Hib)?	4.52	0.52	Very High
To what extent do you agree that your child has received a measles-containing vaccine?	4.76	0.43	Very High
If age-eligible, to what extent do you agree that your child	2.53	1.28	Low

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completed two MMR doses?			
To what extent do you agree that your child completed the pneumococcal vaccine series?	3.57	0.98	High
To what extent do you agree that your child completed the hepatitis B vaccine series?	2.11	1.25	Low
To what extent do you agree that your child is up to date on booster shots (DTaP/Tdap and polio)?	4.13	0.84	High
If age-eligible, to what extent do you agree that your child received other recommended vaccines (flu, HPV)?	2.11	1.25	Low
OVERALL MEAN	3.55	0.89	High

Table 6 illustrates the mean score of children's vaccination status. It obtained an overall mean score of 3.55, interpreted as high. Among the nine indicators, birth-dose vaccines (BCG and Hepatitis B) and measles-containing vaccines obtained the highest mean scores of 4.76, interpreted as very high. This indicates that children generally received their essential vaccines during infancy and early childhood.It is followed by completion of the primary infant series, which obtained a mean score of 4.52, interpreted as very high. Meanwhile, booster vaccinations for DTaP/Tdap and polio obtained a mean score of 4.13, interpreted as high.On the other hand, completion of the hepatitis B vaccine series and receipt of other age-appropriate vaccines, including influenza and HPV, obtained the lowest mean scores of 2.11, interpreted as low. This suggests that some children may not have completed their subsequent or additional recommended vaccinations.These findings imply that although initial childhood immunization is generally practiced, maintaining compliance with succeeding doses remains a challenge. Continuous monitoring of vaccination records, follow-up reminders, and parental education are necessary to promote complete and timely childhood immunization.

Relationship of Parents Knowledge, Attitude, Belief and Accessibility of Vaccination Status

This refers to the association between the parents' knowledge, attitude, belief, and accessibility of vaccines and the vaccination status of their children. The relationship was determined using the Pearson Product-Moment Correlation Coefficient.

Table 7 Relationship of Parents Knowledge, Attitude, Belief and Accessibility of Vaccine to Vaccination Status

	Vaccination Status		
	Correlation Coefficient	***p*-value**	**Interpretation**
Knowledge on Vaccination	.899	.001	Significant
Attitude on Vaccination	.543	.027	Significant
Belief on Vaccination	.611	.003	Significant
Accessibility of Vaccine	.583	.019	Significant

DISCUSSION

The findings revealed that parents in Barangay Lahug, Cebu City, generally had high levels of knowledge (M = 3.76), attitude (M = 3.71), and vaccine accessibility (M = 3.67), while beliefs were moderate (M = 3.25). Children's vaccination status was also rated high (M = 3.55). These results suggest that parents generally recognize the importance of childhood immunization, although some concerns and barriers remain.Parents demonstrated a high level of knowledge, particularly regarding vaccine effectiveness and the importance of vaccination for all ages (M = 4.76). However, misconceptions about vaccination among healthy children and diseases considered eradicated were still evident. This highlights the need for continuous health education from healthcare professionals.Attitudes toward vaccination were generally high, with the importance of immunization for community health receiving the highest mean (M = 4.61). However, concerns about vaccine safety, doses, and possible side effects indicated that some hesitation remained. Similarly, moderate beliefs (M = 3.25) reflected uncertainties about vaccine safety and effectiveness, emphasizing the importance of accurate information and parental counseling.

Vaccine accessibility was rated high (M = 3.67), indicating general awareness of vaccination services. Nevertheless, concerns about financial difficulties, limited information, fear, and vaccine availability suggest that improvements in health education and community-based services are still needed.Children's vaccination status was rated high (M = 3.55), with birth-dose BCG and hepatitis B and measles-containing vaccines receiving high mean scores (M = 4.76). However, lower scores for completion of the hepatitis B series, two-dose MMR, and other age-appropriate vaccines indicate the need for regular monitoring, follow-ups, and vaccination reminders.

Correlation analysis revealed significant positive relationships between all four parental factors and children's vaccination status. Knowledge had the strongest relationship ($r = 0.899$, $p = 0.001$), followed by beliefs ($r = 0.611$, $p = 0.003$), accessibility ($r = 0.583$, $p = 0.019$), and attitude ($r = 0.543$, $p = 0.027$). These findings indicate that higher scores in these parental factors were associated with higher children's vaccination status scores.Overall, the findings emphasize the importance of strengthening parental knowledge, addressing vaccine-related concerns, and improving access to reliable information and immunization services. Nurses and other healthcare professionals play an essential role through health education, counseling, and follow-up to promote completion of children's recommended vaccination schedules.

LIMITATIONS OF THE STUDY

This study has several limitations that should be considered when interpreting its findings. First, the study was conducted exclusively in Barangay Lahug, Cebu City, involving parents or primary caregivers of children aged 0–59 months. Therefore, the findings may not be generalizable to parents in other barangays or communities with different socioeconomic and healthcare conditions. Furthermore, the use of purposive sampling limits the representativeness of the respondents and the extent to which the findings can be generalized to the broader population.

Second, the study employed a quantitative descriptive survey approach and collected data during a specific period. Although the correlational analysis identified significant relationships between parental knowledge, attitudes, beliefs, vaccine accessibility, and children's vaccination status, the findings cannot establish cause-and-effect relationships or determine whether one variable preceded another.Third, information regarding children's vaccination status was gathered through responses from parents or primary caregivers using a structured questionnaire. If immunization cards or official health records were not systematically verified, the responses may have been affected by recall errors or inaccurate reporting. Similarly, responses concerning parental attitudes and beliefs may have been influenced by social desirability bias, wherein respondents provide answers they perceive to be socially acceptable.

Lastly, the questionnaire may not have fully captured all cultural, religious, social, and community-related factors influencing parental decisions regarding childhood vaccination. Although the study included demographic characteristics such as educational attainment and household income, other relevant circumstances, including birth order, previous vaccination experiences, transportation difficulties, misinformation, and trust in

healthcare providers, may not have been comprehensively assessed or controlled. These limitations should be considered when interpreting the findings.Future studies may include respondents from multiple communities, consider probability sampling when feasible, verify children's vaccination status through immunization records, and examine additional factors that may be associated with childhood vaccination.

CONCLUSION

The findings showed that parents in Barangay Lahug, Cebu City, obtained high overall mean ratings in knowledge, attitude, and vaccine accessibility, while their beliefs regarding childhood vaccination were rated moderate. The questionnaire responses concerning children's vaccination status also obtained a high overall mean. Despite these generally favorable descriptive results, the responses reflected continuing concerns about vaccine safety, possible side effects, and barriers related to information and access to vaccination services.

These findings support the need for continued parental health education and accessible community-based immunization information. Nurses, midwives, and barangay health workers may help address parents' questions, explain recommended immunization schedules, and encourage caregivers to keep their children's vaccination records updated. The conclusions should be interpreted within the scope of the respondents, sampling method, questionnaire, and statistical procedures used in the study.

RECOMMENDATIONS

Based on the findings, the following are recommended:

1. Parents and caregivers should be provided with clear and understandable information about the benefits, recommended schedules, and possible side effects of childhood vaccines.

2. Nurses, midwives, and barangay health workers should strengthen health teaching and counseling to address parental questions and concerns about vaccine safety and effectiveness.

3. Barangay health workers may use reminders and follow-up activities to encourage parents to bring their children for scheduled and missed vaccinations.

4. Community health centers and local health authorities may review the concerns identified in the survey and strengthen the dissemination of accurate information about available immunization services.

5. Future researchers may conduct similar studies in other communities, use larger or more representative samples, and verify children's vaccination status through immunization cards or official health-center records where appropriate.

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ETHICAL APPROVAL

Ethical clearance for this study was obtained from the University of Southern Philippines Foundation (USPF) Office of the Research Ethics Committee prior to the conduct of data collection. The study involved 100 parents or primary caregivers of children aged 0–59 months residing in Barangay Lahug, Cebu City. The purpose and procedures of the study were explained to the participants, and informed consent was obtained before their participation. Participation was voluntary, and respondents were informed of their right to refuse or withdraw from the study without penalty. The researchers ensured the confidentiality and privacy of participants in accordance with Republic Act No. 10173, otherwise known as the Data Privacy Act of 2012. Questionnaires and collected information were handled confidentially, and identifying information was protected throughout the research process.

CONFLICT OF INTEREST

The researcher/s declares that there is no external funding for this study and that the researcher/s shoulder all costs related to the conduct of this study. The researchers are independent and are not affiliated with any organization. This study is carried out in partial fulfillment of the requirements for the degree Bachelor of Science in Nursing.

DATA AVAILABILITY STATEMENT

The data supporting the findings of this study are available from the corresponding author upon reasonable request. Access to the data is subject to ethical considerations and the protection of participants' confidentiality and privacy.

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