

Parental Beliefs Towards the Utilization of Childhood Immunization in Barangay Malanday, Marikina City

Author: R-jay B. Del Rosario, Elijah Y. Ducog • Kriston Jade C. Dupan • Victor Joseph N. Esteban, Yhuan Damien L. Macalalad • Aaron Earl B. Morales • Darren L. Sismundo

College of Nursing, Pamantasan ng Lungsod ng Marikina, Marikina City, Philippines

Corresponding author: Victor Joseph N. Esteban • victorjosephesteban19@gmail.com

ABSTRACT

Background: Childhood immunization prevents vaccine-preventable diseases, but completion of the recommended vaccines remains uneven in some communities. **Objective:** To determine parental beliefs towards the utilization of childhood immunization in Barangay Malanday, Marikina City, and to examine differences according to demographic profile. **Methods:** A quantitative descriptive-comparative design was used. Data were collected from 183 parents or guardians selected through simple random sampling. The self-made questionnaire covered demographic characteristics, utilization of seven childhood vaccines, and 24 items under six Health Belief Model constructs. The instrument obtained a Cronbach's alpha of 0.855. Frequencies, percentages, weighted means, t tests, and one-way analysis of variance were used. **Results:** Average vaccine utilization was 84.00%, interpreted as Moderate Utilization. Hepatitis B and BCG had the highest utilization, while Pentavalent had the lowest. Parental beliefs were rated Strongly Agree, with a grand mean of 3.33. Beliefs did not differ significantly across demographic groups. Utilization differed significantly by age and socioeconomic status, but not by sex or educational attainment. No significant relationship was found between parental beliefs and utilization. **Conclusion:** The respondents held positive beliefs about childhood immunization, although the use of all recommended vaccines was not consistently high. Follow-up and community support remain important in helping families complete childhood immunization schedules.

Keywords: *childhood immunization; Health Belief Model; parental beliefs; vaccine utilization; public health nursing*

INTRODUCTION

Childhood immunization is one of the most successful public health measures for preventing illness and death among children. Even so, disruptions during the COVID-19 pandemic left many children unvaccinated or under-vaccinated and also affected public confidence in routine vaccination (UNICEF, 2023). In the Philippines, the National Immunization Program provides vaccines through public health facilities, but national and local reports continue to show gaps in coverage and delays in receiving scheduled doses (Department of Health [DOH], 2023; BMJ Global Health, 2025; Raguindin et al., 2021). The Reaching Every District strategy also emphasizes the need to reach children who miss routine services (World Health Organization [WHO], 2023).

The Health Belief Model explains preventive behavior through perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action (Rosenstock, 1966). These constructs are frequently used in studies of parental vaccination decisions (Dyda et al., 2020). Research has also shown that parents may understand the value of vaccination while still delaying or missing doses because of concerns, family influence, or difficulties in accessing services (Hobani & Alhalal, 2022; Maturan et al., 2022; Hadisuyatmana et al., 2019).

Studies cited in the thesis describe several influences on childhood immunization. Caregiver age, education, sex roles, and socioeconomic conditions may shape decision-making and access, although their effects differ across settings (Abebe et al., 2022; de Figueiredo et al., 2020; Gerber et al., 2024; UNICEF Philippines, 2024). Philippine studies have likewise reported the importance of healthcare-worker advice, family support, transportation, vaccine availability, and other practical concerns (Alingay et al., 2021; Dalisay et al., 2025; Philippine BeSD Study, 2022/2025; Ridad, 2019).

The study focused on Barangay Malanday, Marikina City, where local data were needed to describe parental beliefs and actual vaccine utilization. It aimed to identify the respondents' demographic profile, measure utilization of the seven childhood vaccines included in the questionnaire, assess beliefs using the Health Belief Model, compare beliefs and utilization across demographic groups, and determine whether parental beliefs were significantly related to utilization.

METHODS

Study design

The study used a quantitative descriptive-comparative research design. It described parental beliefs and childhood immunization utilization and compared these variables when respondents were grouped according to age, sex, educational attainment, and socioeconomic status. The variables were measured without manipulation.

Setting and participants

The study was conducted in Barangay Malanday, Marikina City, Philippines, from 2025 to 2026. Participants were household representatives who were at least 18 years old, had a child or children, and had lived in the barangay for at least three years. Those who did not meet these conditions were excluded. The sampling frame consisted of 12,768 households. Households were selected through simple random sampling using a computer-generated process.

Using Slovin's formula, the initial target sample was 388 household representatives at a 5% margin of error. The final sample consisted of 183 completed responses. Following consultation with the study statistician, the thesis reported a 7.3% margin of error and a 92.7% confidence level for the final sample.

Variables and instruments

The researchers used a self-made questionnaire divided into three parts. The first part gathered information on age, sex, educational attainment, and socioeconomic status. The second part asked whether

the child had received BCG, Hepatitis B, Pentavalent, oral polio vaccine, measles-mumps-rubella vaccine, inactivated polio vaccine, and pneumococcal conjugate vaccine. Respondents were instructed to use the child's vaccination card when completing this section.

The third part contained 24 items based on perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action. Responses were recorded on a four-point scale from 1 (Strongly Disagree) to 4 (Strongly Agree). Three experts validated the questionnaire, and the instrument was pilot-tested. Cronbach's alpha was 0.855, which was interpreted as good reliability.

Data collection

The researchers administered the questionnaire through Google Forms. They personally provided the link or mobile-device access and assisted respondents who needed help using the digital form. Informed consent was obtained before participation. A total of 183 completed responses were included in the analysis.

Data analysis

Frequencies and percentages were used for demographic characteristics and vaccine utilization, while weighted means were used for the Health Belief Model items. An independent-samples t test was used for comparisons by sex. One-way analysis of variance was used for age, educational attainment, and socioeconomic status. The thesis also used a t test to examine the reported relationship between parental beliefs and immunization utilization. Decisions followed the computed and critical values presented in the defended thesis.

Ethical considerations

Participation was voluntary, and informed consent was obtained from every respondent. The questionnaire included a privacy notice based on Republic Act No. 10173, or the Data Privacy Act of 2012. Information was collected only for academic and research purposes and was kept confidential. The

researchers also observed autonomy, veracity, beneficence, and non-maleficence during data collection.

RESULTS

The study included 183 respondents. The largest age group was 37–40 years old (41.53%, $n = 76$), and 57.38% ($n = 105$) were female. Senior High School graduates formed the largest educational group (29.51%, $n = 54$). Almost half of the respondents reported a monthly income below ₱12,030 (49.18%, $n = 90$).

Table 1. Participant characteristics (N = 183)

Characteristic	n	%
Age 18–24 years	28	15.30
Age 25–29 years	28	15.30
Age 30–33 years	24	13.11
Age 34–36 years	27	14.75
Age 37–40 years	76	41.53
Female	105	57.38
Male	78	42.62
Senior High Graduate	54	29.51
College Graduate	47	25.68
Vocational Graduate	38	20.77
Junior High Graduate	27	14.75
Elementary Graduate	15	8.20
Non-Formal Education	2	1.09
Income < ₱12,030	90	49.18
₱12,030–₱24,060	54	29.51
₱24,060–₱48,120	31	16.94
₱48,120–₱84,210	6	3.28
₱84,210–₱144,360	1	0.55
₱144,360–₱240,600	1	0.55

Average utilization across the seven vaccines was 84.00%, classified in the thesis as Moderate Utilization. Hepatitis B had the highest utilization at 92.90%, followed by BCG at 90.16%. Pentavalent had the lowest utilization at 63.39%. The utilization rates

for IPV, MMR, OPV, and PCV were between 81.97% and 88.52

Table 2. Reported childhood vaccine utilization

Vaccine	Used, n	Not used, n	%
BCG	165	18	90.16
Hepatitis B	170	13	92.90
Pentavalent	116	67	63.39
OPV	156	27	85.25
MMR	157	26	85.79
IPV	162	21	88.52
PCV	150	33	81.97
Average	153.7	29.3	84.00

Note. The thesis classified 90.00%–100% as High Utilization, 80.00%–89.99% as Moderate Utilization, and below 80.00% as Low Utilization. BCG = Bacillus Calmette-Guérin; IPV = inactivated poliovirus vaccine; MMR = measles-mumps-rubella vaccine; OPV = oral polio vaccine; PCV = pneumococcal conjugate vaccine.

The grand mean for parental beliefs was 3.33, interpreted as Strongly Agree. Perceived susceptibility obtained the highest mean (3.53), followed by perceived benefits (3.51), perceived severity (3.46), cues to action (3.42), and self-efficacy (3.39). Perceived barriers had the lowest mean (2.68) and was interpreted as Agree.

Table 3. Health Belief Model construct scores

Construct	Mean	Interpretation
Perceived Susceptibility	3.53	Strongly Agree
Perceived Severity	3.46	Strongly Agree
Perceived Benefits	3.51	Strongly Agree
Perceived Barriers	2.68	Agree
Self-Efficacy	3.39	Strongly Agree
Cues to Action	3.42	Strongly Agree
Grand Mean	3.33	Strongly Agree

No significant differences in parental beliefs

were found when respondents were grouped by age, sex, educational attainment, or socioeconomic status. Utilization differed significantly by age ($F = 3.48$; critical value = 2.42) and socioeconomic status ($F = 3.20$; critical value = 2.27). It did not differ significantly by sex or educational attainment. The thesis also reported no significant relationship between parental beliefs and utilization ($t = -1.00$; critical value = 1.97).

Table 4. Inferential results reported in the thesis

Outcome / grouping	Test	Computed	Critical	Decision
Beliefs / age	ANOVA	$F = 1.52$	2.45	Fail to reject H_0 ; not significant
Beliefs / sex	t test	$t = -0.89$	2.01	Fail to reject H_0 ; not significant
Beliefs / education	ANOVA	$F = 1.12$	2.28	Fail to reject H_0 ; not significant
Beliefs / SES	ANOVA	$F = 0.63$	2.28	Fail to reject H_0 ; not significant
Utilization / age	ANOVA	$F = 3.48$	2.42	Reject H_0 ; significant
Utilization / sex	t test	$t = -0.36$	1.97	Fail to reject H_0 ; not significant
Utilization / education	ANOVA	$F = 0.46$	2.44	Fail to reject H_0 ; not significant
Utilization / SES	ANOVA	$F = 3.20$	2.27	Reject H_0 ; significant
Beliefs vs utilization	t test	$t = -1.00$	1.97	Fail to reject H_0 ; not significant

Note. The statistical values and decisions are reported as presented in the defended thesis. SES = socioeconomic status.

Discussion

Parents in Barangay Malanday generally expressed strong support for childhood immunization. The utilization results, however, were not the same for every vaccine. Birth-dose vaccines were used more often, while Pentavalent showed the lowest utilization. The contrast suggests that accepting vaccination in principle does not always mean that every recommended vaccine is received. The high scores for susceptibility, severity, benefits, self-efficacy, and cues to action show that respondents were aware of vaccine-preventable diseases and believed that vaccination protects children. Similar findings were reported in studies that used the Health Belief Model, where perceived benefits, perceived threat, confidence, and advice from health professionals were connected with vaccination decisions (Hobani & Alhalal, 2022; Maturan et al., 2022; Torun et al., 2025). The lower score for perceived barriers also shows that concerns were present even among parents who generally favored immunization.

Age and socioeconomic status were the only demographic variables with significant differences in utilization. This agrees with evidence cited in the thesis showing that caregiver age and household resources can affect vaccination practices and access (Philippine BeSD Study, 2022/2025; MDPI, 2025). Sex and educational attainment were not significant in the present study. Other research also shows that these factors do not act in the same way in every setting because family roles, decision-making power, and access to information may change their effects (Abebe et al., 2022; Gerber et al., 2024; UNICEF Philippines, 2024).

The lack of a significant relationship between overall beliefs and utilization is important. The respondents already had positive beliefs, yet the

average utilization remained moderate. Studies included in the thesis describe a similar gap between intention and actual follow-through when parents encounter family influence, service concerns, transportation problems, or vaccine availability issues (Alingay et al., 2021; Dalisay et al., 2025; Ridad, 2019; Wee et al., 2021). These factors were not measured directly in the present study, so they should be examined in future research rather than treated as confirmed causes of the Malanday results.

For community nursing practice, the lower use of a vaccine that requires several scheduled doses points to the importance of follow-up. Reminder systems, checking vaccination cards, and coordinating with barangay health workers may help parents return for later doses. Health education should continue, but it can be paired with practical support, catch-up activities, and outreach approaches discussed in the thesis and in immunization guidance (Acacio-Claro et al., 2025; Global Vaccine Action Plan [GVAP], n.d.; Sabate, 2025).

Strengths and limitations

The study was strengthened by its community-based focus, simple random sampling, use of the Health Belief Model, expert validation, pilot testing, and the good reliability of the 24-item questionnaire. Its findings are limited to Barangay Malanday and cannot automatically be applied to other communities. The final sample was smaller than the original target, and the study relied on survey responses and vaccination-card availability. Because the design was descriptive-comparative, it identified differences but could not establish cause and effect. Service-level factors such as stock-outs, distance, clinic hours, and healthcare-worker interactions were also outside the measured variables.

CONCLUSION

The study found that parents and guardians in Barangay Malanday held strongly positive beliefs about childhood immunization, while average vaccine utilization remained moderate. Beliefs were similar across the demographic groups, but utilization differed by age and socioeconomic status. Overall parental beliefs were not significantly related to utilization. The results support continued vaccine education together with follow-up measures that help families complete the recommended schedule.

IMPLICATIONS FOR NURSING AND HEALTH SCIENCES

Community and public health nurses can give more attention to children who still need later or repeated vaccine doses. Reviewing vaccination cards, providing reminders, and coordinating follow-up through barangay health workers may help improve continuity of immunization services.

Local programs may also consider the differences observed across age and socioeconomic groups when planning outreach. Future research can include other barangays, use qualitative or mixed methods, and directly examine vaccine availability, transportation, clinic schedules, and healthcare-worker interactions.

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AUTHOR CONTRIBUTIONS

All seven authors contributed to the conceptualization, methodology, investigation, data collection, analysis, drafting, and revision of the manuscript. All authors reviewed and approved the final version.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY

The questionnaire and de-identified study data may be requested from the corresponding author, subject to institutional approval and the requirements of the Data Privacy Act of 2012.

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