

# Assessing mother's knowledge and attitude on routine immunization: A cross-sectional study at Kalinga provincial hospital

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## Abstract

Immunization is a critical public health intervention that has significantly reduced childhood morbidity and mortality rates worldwide. The success of immunization programs relies heavily on the knowledge and attitudes of mothers towards vaccines, as they are the primary decision-makers for their children's healthcare. This study aimed to determine the mother's level of knowledge and attitude toward routine immunization at Kalinga Provincial Hospital. Utilizing a cross-sectional descriptive design, data were collected from 48 mothers through a modified questionnaire. Findings revealed a prevailing low knowledge level, emphasizing significant gaps in understanding vaccination schedules, doses, and preventable diseases. While the majority expressed positive attitudes, a subset retained misconceptions, influenced by cultural, religious, and alternative healing practices. Notably, older mothers exhibited more favorable attitudes, aligning with their potentially stronger influence on vaccination decisions. Research limitations include a small sample size and geographical specificity, impacting generalizability. However, these constraints are acknowledged to provide transparency about the study's scope. Implications suggest the need for tailored educational campaigns, considering sociodemographic factors and collaborating with indigenous communities. Cultural and religious considerations should be incorporated into communication strategies to dispel myths and build trust. The study underscores the importance of healthcare providers' role in addressing concerns and promoting comprehensive vaccine literacy. Future research should explore specific factors contributing to knowledge gaps, guiding targeted interventions.

**Keywords:** routine immunization, mothers, knowledge, attitude, sociodemographic factors

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## Introduction

Immunization has been a cornerstone of public health for over two centuries, significantly reducing the burden of vaccine-preventable diseases (VPDs). Despite global efforts led by organizations like the World Health Organization (WHO), recent challenges, exacerbated by the pandemic, have impeded vaccination coverage (CDC, 2022). The World Health Organization reports a notable increase in "zero-dose" children, emphasizing a critical need to assess the factors influencing immunization practices (UNICEF-Philippines, 2022). However, there are evident disparities in immunization coverage and the profound impact on child health (Almutairi et al., 2021; Hussain et al., 2021; Taiwo et al., 2017). The Philippines, consistently falling below the ideal 95% target coverage rate, faces challenges unique to its sociodemographic landscape.

In this context, this research focuses on understanding the knowledge and attitudes of mothers towards routine immunization, particularly in Kalinga Province, Philippines. This study delves into the specific dynamics of Kalinga Province, which, even before the pandemic, exhibited low coverage rates (DOH, 2023). The objectives of the study include examining the knowledge and attitudes of mothers, identifying factors contributing to vaccine hesitancy, and proposing interventions to enhance routine immunization. This research aims to shed light on the intricate relationship between sociodemographic factors and maternal perspectives on routine immunization, fostering a pathway towards enhanced child health outcomes in Kalinga Province.

This paper aims to contribute valuable insights to the body of knowledge, guiding policymakers, healthcare providers, and community leaders in designing effective strategies to improve vaccine literacy and uptake. The importance of this study lies in its potential to inform targeted interventions for improving vaccine coverage and addressing persistent gaps.

## Methodology

A cross-sectional descriptive study was used as a research design where a quantitative approach was employed, utilizing a structured questionnaire adapted from Capili et al. (2022). The data collection spanned from March 6-10, 2023 at Kalinga Provincial Hospital.

The sample size of 48 respondents was determined using Raosoft, considering a 50% response distribution, 5% margin of error, and a 95% confidence level. Simple random

sampling was employed, selecting mothers aged 14 to 53 years, residing in Kalinga, with at least one child aged one year and above. Exclusions comprised non-residents and those unable to read Ilocano or English.

The study utilized a modified standardized instrument consisting of three parts: sociodemographic profile, knowledge assessment (22-item questionnaire), and attitude assessment (12-item Likert scale). The instrument underwent expert content validation, forward and back translation, pre-testing, and a pilot test to ensure reliability and validity.

Descriptive analysis was applied to sociodemographic variables, knowledge, and attitude levels. The respondents' knowledge score was categorized using Bloom's cut-off point. Pearson correlation was employed to assess relationships between sociodemographic factors and knowledge/attitude. Data analysis was conducted using IBM SPSS Version 26.

The study prioritized ethical considerations, emphasizing voluntary participation, informed consent, confidentiality, and the right to withdraw. Researchers strictly adhered to health protocols and maintained integrity in data handling, avoiding plagiarism and ensuring accuracy.

## **Findings**

The study investigated the demographics, knowledge, and attitudes of respondents regarding routine immunization. A majority fall within the low-risk reproductive age group of 24-33 years, with concentrations in high-risk pregnancy categories of ages 34-43 and 44-53. More than half are married, with some cohabiting. Roman Catholicism is the predominant religious affiliation. Respondents mostly comprise primiparous mothers with varying educational backgrounds, including college graduates and midwives. Surprisingly, a significant portion is unemployed by choice, prioritizing family responsibilities.

Partners of respondents are mostly employed in blue-collar occupations. The study reveals a moderate level of knowledge regarding vaccine benefits, with a notable misconception that vaccines solely prevent diseases. However, respondents recognize vaccination schedules' importance, viewing them as a means to protect children. A majority acknowledges vaccination as a cost-effective public health intervention accessible for free.

Interviews show respondents are well-informed about anticipated vaccination effects, minimizing concerns about side effects. Knowledge gaps exist regarding vaccine-preventable

diseases, attributed to the absence of tailored promotional materials, language barriers, and limited media literacy. Some respondents find difficulty comprehending Information Education Communication (IEC) resources in Filipino.

Regarding vaccine administration, respondents exhibit a low level of knowledge, particularly concerning compromised immune systems and missed immunizations. Contradicting previous research, respondents display a moderate understanding of managing vaccine side effects, with misconceptions around administering vaccines to severely sick children.

Respondents demonstrate a high level of knowledge regarding healthcare providers' roles, understanding the importance of free vaccination services, accurate record-keeping, and patient screening.

Correlations exist between demographics, knowledge, and attitudes. Older respondents and those with higher educational attainment show better knowledge and positive attitudes. Parity is positively related to knowledge and attitude, while employment status is significantly related to routine immunization knowledge and attitudes.

Overall, the study reveals a low overall level of knowledge about vaccination, with specific gaps in understanding vaccine-preventable diseases and administration protocols. Attitudes toward routine immunization are generally positive, but misconceptions and negative beliefs persist.

## **Conclusion**

This research sheds light on the knowledge and attitudes of mothers towards routine immunization in Kalinga Province, emphasizing the critical need for targeted interventions. The sociodemographic profile unveiled characteristics of the study population, highlighting areas for focused educational campaigns. Knowledge gaps were identified, particularly in vaccine administration protocols and awareness of vaccine-preventable diseases. While attitudes towards routine immunization were predominantly positive, a nuanced understanding revealed concerns related to alternative practices and religious beliefs.

The study underscores the importance of tailored educational initiatives, leveraging the identified sociodemographic factors to address specific barriers and misconceptions. Recommendations include collaborative efforts between health authorities, educational institutions, and community leaders to design culturally sensitive campaigns. Moreover,

translating campaign materials into local dialects and ensuring aesthetic appeal can enhance accessibility and comprehension.

The significant relationships between age, education, parity, and employment status with knowledge and attitude emphasize the need for targeted outreach programs. Interventions should consider the digital age's impact on information-seeking behavior and address conventional beliefs among older mothers.

By acknowledging these findings, policymakers and healthcare providers can craft informed strategies to bolster vaccine literacy, promote immunization, and safeguard children's health in the community. The study contributes valuable insights to the broader discourse on routine immunization and sets the foundation for evidence-based interventions tailored to the unique characteristics of Kalinga Province.

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