

Preliminary Assessment of Factors Related to Parents' Adherence to childhood Immunization in Aizawl, Mizoram

Deeplata Koch¹, Ms. Zirchampuui²

¹PG Scholar, Department of Community Health Nursing, Regional Institute of Paramedical and Nursing Sciences, Aizawl, Mizoram, India

²Faculty, Department of Child Health Nursing, Regional Institute of Paramedical and Nursing Sciences, Aizawl, Mizoram, India

Corresponding Author email: deeplatakoch687@gmail.com

ABSTRACT— Background: Childhood immunization is a vital public health intervention that protects children from vaccine-preventable diseases. Parents play a crucial role in ensuring adherence to childhood immunization schedules. Understanding the factors influencing parental adherence is important for improving immunization coverage.

Objectives: To identify the factors related to parents' adherence to childhood immunization and to determine the association between these factors and selected socio-demographic variables.

Methods: A quantitative research approach with a descriptive survey design was adopted for this pilot study. The study was conducted among 10 parents of children aged 5–10 years residing in Zemabawk North, Aizawl, Mizoram. Participants were selected using a non-probability convenience sampling technique. Data were collected using a demographic proforma and a structured questionnaire on factors related to parents' adherence to childhood immunization. Data were analyzed using descriptive and inferential statistics with IBM SPSS Statistics Version 20.

Results: The findings revealed that belief and attitude factors and external and social influence factors demonstrated the highest mean scores (14.30 ± 0.823 and 14.30 ± 0.674 , respectively), indicating that these were the most influential factors related to adherence. No statistically significant association was found between most socio-demographic variables and the study factors ($p > 0.05$). However, the study further identified significant associations between type of family and knowledge factors, occupation of the head of the family and external and social influence factors, and child's age and belief and attitude factors. Therefore, the research hypothesis was accepted, as significant associations were identified between selected socio-demographic variables and factors related to parents' adherence to childhood immunization.

Conclusion: The study found that parental belief and attitude factors and external and social influences factors were the most important factors related to adherence to childhood immunization. Significant associations were observed between selected socio-demographic variables and adherence-related factors. Strengthening parental awareness, positive attitudes, and community support may improve adherence to childhood immunization schedules.

Keywords: Childhood immunization, parental adherence, influencing factors, parents, vaccination, Mizoram

INTRODUCTION

Childhood immunization is one of the most effective and cost-effective public health interventions for preventing vaccine-preventable diseases and reducing childhood morbidity and mortality (Naser & Al-Shehri, 2026; World Health Organization [WHO], 2024). Parental adherence to recommended immunization schedules plays a crucial role in ensuring timely protection of children. Previous studies have reported that parental decisions regarding childhood vaccination are influenced by factors such as knowledge, attitudes, beliefs, social influences, and accessibility of healthcare services (Nulong et al., 2024; Naser & Al-Shehri, 2026).

Mizoram has consistently maintained high childhood immunization coverage. Understanding the factors that support parents' adherence to childhood immunization is important for sustaining these achievements and strengthening immunization services. Therefore, this study was conducted to identify factors related to parents' adherence to childhood immunization and determine their association with selected demographic variables in Aizawl, Mizoram.

OBJECTIVES

1. To identify factors related to parents' adherence to childhood immunization.
2. To determine the association between factors related to parents' adherence to childhood immunization and selected socio-demographic variables.

HYPOTHESIS

H₁: There is a significant association between factors related to parents' adherence to childhood immunization with sociodemographic variables.

ASSUMPTION

1. knowledge about immunization may promote better adherence to immunization schedules.
2. Accessibility and availability of immunization services may influence parental adherence.

DELIMITATIONS

1. The study is limited to the selected community setting and findings may not be generalized to all parents in Mizoram.
2. The study includes only parents who can understand the language used in the questionnaire.

METHODOLOGY

Research Approach: Quantitative Research Approach

Research Design: Descriptive Survey Design

Setting: Zemabawk North, Aizawl, Mizoram.

Population: Parents of children's residing in Zemabawk North, Aizawl, Mizoram.

Sample: Parents of children between 5-10 years, residing in Zemabawk North, Aizawl, Mizoram.

Sample Size is 10

Sampling Technique: Non-probability convenience sampling

Sampling Criteria

Inclusion criteria

- Parents who are willing to participate
- Parents whose children are between 5-10 years of age.
- Only one child between 5-10 years of age per family.

Exclusion criteria

- Parents whose children are not vaccinated
- Parents who are not able to read or write Mizo/English

DATA COLLECTION TOOLS AND TECHNIQUES

Table 1. Data Collection Tools and Techniques

Tools	No. of items	Variables to be measured	Techniques
Tool I	08	Socio Demographic Proforma (As Per Modified Kuppaswamy Scale)	Self-administered
Tool II	20	Structured Questionnaire on Factors Related to Parent's Adherence to Childhood Immunization. (Knowledge Factors (5), Health System and Accessibility Factors (5), Belief and Attitude Factors (5), External and Social Influence Factors) (5),	Self-administered

ETHICAL CONSIDERATIONS

For the study-

- Permission was obtained from the Chairman of Local Council Head
- Written Informed consent was obtained from the participants
- Privacy and confidentiality of the study participants was maintained throughout the study process.

DATA ANALYSIS AND INTERPRETATION

Table 2: Frequency and percentage distribution of the Socio-demographic variables

n=10

SOCIO-DEMOGRAPHIC VARIABLES		f	Percentage (%)
Age	20-30	1	10.0
	31-40	8	80.0
	41 years and above	1	10.0
Gender of Parents	Male	0	0.0
	Female	10	100.0
Marital Status	Married	9	90.0
	Unmarried	1	10.0
	Divorced	0	0.0
	Widowed	0	0.0
Mother Education	Illiterate	0	0.0
	Primary	2	20.0
	Secondary	6	60.0
	Higher Secondary	0	0.0
	Graduate	2	20.0
	Postgraduate	0	0.0
	Others	0	0.0
Father Education	Illiterate	0	0.0
	Primary	0	0.0
	Secondary	0	0.0
	Higher Secondary	0	0.0
	Graduate	0	0.0
	Postgraduate	0	0.0
	Others	0	0.0
Occupation	Unemployed	2	20.0
	Unskilled Worker	3	30.0
	Skilled Worker	0	0.0

	Shop/Farm Owner	3	30.0
	Professional	2	20.0
Monthly Family Income	More than Rs. 78,063	0	0.0
	Rs. 39,033- Rs. 78062	2	20.0
	Rs. 29,200 – Rs. 39,032	1	10.0
	Rs. 19,516 – Rs. 29,199	5	50.0
	Rs. 11,708 – Rs. 19,515	2	20.0
	Rs. 3,908 – Rs. 11,707	0	0.0
	less than Rs. 3,907	0	0.0
Type of Family	Nuclear	6	60.0
	Joint	4	40.0
Child Age Group	5-6	3	30.0
	7-8	4	40.0
	9-10	3	30.0

The findings indicate that the majority of participants were married women aged 31–40 years. Most had secondary-level education, belonged to nuclear families, and had a moderate monthly income. Children were fairly distributed across the selected age groups, with the highest proportion aged 7–8 years.

Table: 3 The table shows the mean and standard deviation of factors influencing parent's adherence to childhood immunization, identifying the most related factors.

Factors	n	Mean	Std. Deviation	Category
Knowledge factors	10	13.9000	1.28668	High
Health system and accessibility factors	10	13.9000	1.37032	High
Belief and attitude factors	10	14.3000	.82327	High
External and social influence factors	10	14.3000	.67495	High

These results indicate variations in the level of influence of the different factors related to parents' adherence to childhood immunization. Among the assessed factors, Belief and Attitude Factors and External and Social Influence Factors showed the highest mean scores, indicating a greater influence on adherence.

Table 4. Scoring and Classification of Factors related to Parental Adherence to Childhood Immunization Based on Mean Split Method

Factors	Mean Score	Scoring Classification
Knowledge Factors	13.90	<13.90= Low; ≥13.90= High
Health System & Accessibility Factors	13.90	<13.90= Low; ≥13.90= High
Belief & Attitude Factors	14.30	<14.30= Low; ≥14.30 = High
External & Social Influence Factors	14.30	<14.30 = Low; ≥14.30 = High

Table 4 presents the scoring pattern and classification of factors related to parental adherence to childhood immunization using the mean split method. Respondents were categorized into low and high levels based on their scores in relation to the mean score of each factor. Scores below the mean were classified as low, whereas scores equal to or above the mean were classified as high. This classification was subsequently used to assess the association between the factors related to parental adherence to childhood immunization and selected socio-demographic variables using Fisher's Exact Test.

Table 5. Association Between Factors and Selected Socio-Demographic Variables (Fisher's Exact Test)

n=10

Socio-demographic Variable	Knowledge Factors (p value)	Health System & Accessibility Factors (p value)	Belief & Attitude Factors (p value)	External & Social Influence Factors (p value)	Association
Age	1.000	1.000	1.000	0.667	Not Significant
Marital Status	1.000	1.000	1.000	0.400	Not Significant
Mother's Educational Qualification	1.000	0.714	0.683	0.714	Not Significant
Occupation of Head of Family	1.000	0.129	0.286	0.043*	Significant with External & Social Influence Factors
Monthly Family Income	1.000	0.095	0.683	1.000	Not Significant
Type of Family	0.033*	1.000	1.000	1.000	Significant with Knowledge Factors
Child's Age	0.400	0.743	0.048*	0.743	Significant with Belief & Attitude Factors

* = Significant (p < 0.05); ** = Highly Significant (p < 0.01); *** = Very Highly Significant (p < 0.001)

The findings indicate that Type of Family was significantly associated with Knowledge Factors (p = 0.033), Occupation of Head of Family was significantly associated with External & Social Influence Factors (p = 0.043), and Child's Age was significantly associated with Belief & Attitude Factors (p = 0.048). No significant associations were found between the remaining socio-demographic variables and the assessed factors related to parents' adherence to childhood immunization (p > 0.05).

DISCUSSION

The present study found that belief and attitude factors (14.30 ± 0.82) and external and social influence factors (14.30 ± 0.67) showed the highest mean scores, indicating a greater influence on parental adherence to childhood immunization. These findings are consistent with the studies of Cooper et al. (2021) and Lockett et al. (2025), which highlighted the importance of parental beliefs, social influences, and healthcare-related factors in immunization adherence.

Fisher's Exact Test revealed that Type of Family was significantly associated with Knowledge Factors (p = 0.033), Occupation of Head of Family was significantly associated with External and Social Influence Factors (p = 0.043), and Child's Age was significantly associated with Belief and Attitude Factors (p = 0.048). Similar findings were reported by Nassar et al. (2023), Shahid et al. (2024), and Younis et al. (2025), who found that socio-demographic characteristics can influence parental immunization-related knowledge, attitudes, and practices. No significant associations were observed for the remaining socio-demographic variables, which may be due to the small sample size of the study (n = 10).

LIMITATIONS

- The study was conducted within a limited period and geographical area; therefore, the findings cannot be generalized to all parents in Mizoram.
- The findings represent the situation during the period of data collection and may not reflect changes in parental attitudes or practices over time.

CONCLUSION

The study was conducted the factors related to parents' adherence to childhood immunization among parents of children aged 5–10 years in selected areas of Aizawl, Mizoram. The findings revealed that belief and attitude factors and external and social influence factors showed the highest mean scores, indicating a greater influence on adherence.

The study further identified significant associations between type of family and knowledge factors, occupation of the head of the family and external and social influence factors, and child's age and belief and attitude factors. No significant associations were found between the remaining socio-demographic variables and the assessed factors.

The findings suggest that parental beliefs, attitudes, and social influences play an important role in adherence to childhood immunization schedules. Therefore, strengthening parental awareness, fostering positive attitudes toward immunization, and enhancing support from healthcare providers and the community may contribute to improved adherence to childhood immunization.

REFERENCES

1. Cooper, S., Schmidt, B. M., Sambala, E. Z., Swartz, A., Colvin, C. J., Leon, N., & Wiysonge, C. S. (2021). Factors that influence parents' and informal caregivers' views and practices regarding routine childhood vaccination: A qualitative evidence synthesis. *The Cochrane Database of Systematic Reviews*, 10(10), CD013265. <https://doi.org/10.1002/14651858.CD013265.pub2>
2. Lockett, B., Willemse, J. J., & Modeste, R. M. (2025). A systematic review on factors influencing immunisation adherence among children under 12 years of age. *Health SA Gesondheid*, 30, 2864. <https://doi.org/10.4102/hsag.v30i0.2864>

3. Naser, A. Y., & Al-Shehri, H. (2026). Parents' attitudes toward pediatric vaccines in Jordan: A cross-sectional study. *International Journal of Clinical Practice*, 2026, Article 9728737. <https://doi.org/10.1155/ijcp/9728737>
4. Nassar, O., Alshahwan, S., Alshahwan, R., Halasa, S., Alashhab, S., & Alnajjar, M. (2023). Determinants of parents' knowledge, attitudes, and practice toward childhood vaccination: A national study. *The Open Nursing Journal*, 17, 1–11. <https://doi.org/10.2174/18744346-v17-230223-2022-88>
5. Nulong, N., Chutipattana, N., Nguyen, L. T. K., Tran, A. D., Nguyen, U. T. T., & Le, C. N. (2025). Determinants of parental adherence to childhood immunization among children under five in marginalized Asian populations. *International Journal of Environmental Research and Public Health*, 22(11), 1692. <https://doi.org/10.3390/ijerph22111692>
6. Shahid, S., Shakir, H., Ayesha, M., Kainat, A., Qurat-ul-Ain, Ijaz, A., Tahir, M. A., et al. (2024). Factors influencing parental practices regarding childhood immunization in Lahore, Pakistan. *Journal of Pharmaceutical Research International*, 36(11), 241–252. <https://doi.org/10.9734/jpri/2024/v36i117616>
7. World Health Organization. (2024). *Immunization agenda 2030: A global strategy to leave no one behind*. World Health Organization. <https://www.who.int>
8. Younis, F. E., Elseifi, O. S., Toonisi, F. M., Alsamti, M. A., Alanazi, H. T., & Mortada, E. M. (2025). Parental perspectives on childhood vaccination: Analysing knowledge and attitudes among families in Tabuk, Saudi Arabia. *Patient Preference and Adherence*, 19, 2711–2721. <https://doi.org/10.2147/PPA.S537453>