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PERCEPTION AND ATTITUDE OF PARENTS TOWARDS IMMUNIZATION AGAINST CHILDHOOD DISEASES IN BAUCHI LOCAL GOVERNMENT AREA, BAUCHI STATE, NIGERIA

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Abstract

The study investigates the perception and attitude of parents towards immunization against children diseases in Bauchi LGA, Bauchi State, Nigeria. A descriptive study of the area was carried out to describe the demographic characteristics of the respondents in the study area; assess the perception of parents towards immunization of their children against the child killer diseases; and examine parents attitude towards the immunization of their children. A simple survey design was adopted, and 120 copies of research questionnaire were distributed, out of which a total of 110 was retrieved. Data were collected using structured questionnaire and FGD. The data retrieved from the respondents were analyzed using descriptive statistics. The results revealed that 36.4% fell within the age bracket of 51 years and above, 52.7% were female, 36.4% were civil servant, 54.5% were married, 46.4% had secondary education, and 54.6% had 1-5 children respectively. The perceptions of parents towards immunization shows that 81.8% indicates their children 0-5 years need immunization, 63.6% believed that immunization is not safe due to their wrong perception while 63.6% viewed immunization as a mean of family planning method to reduce the level of conception among children in the future, 81.2%

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do not hide their children in door during immunization, while 56.4% immunized their children regularly. Most parents agreed that child vaccination is essential (96.6%), 81.2% observed immunization according to scheduled and 75.5% are of the view that awareness creation should be carried out to change the wrong attitude of parents on immunization. It was recommended that government should embark on literacy campaign, so as to elevate the level of awareness on immunization.

Introduction

Immunization is a process by which an individuals are given resistant to infectious diseases through vaccination, as part of a cornerstone of public health interventions which is aimed at reducing child mortality and morbidity (WHO, 2024). Immunization is a crucial public health strategy against childhood diseases. The effectiveness of the programs, however, depend on the acceptance and compliance of parents (Sakila et al., 2025). As a cost-effective program, immunization used established approaches to ensure accessibility, among marginalized and remote populations, and serves as a vital component of child survival strategies (WHO, 2020). It was reported that among children, death caused by infectious diseases is reduced by 2-3 million each year by using vaccines (WHO/UNICEF, 2016). Therefore, childhood vaccination is one of the strategies for reducing vaccine-preventable diseases (VPD), children mortality and morbidity rate, and medical costs related to infectious diseases, which may guarantee a better quality of life for children (Amri et al., 2018; Balbir Singh et al., 2019). Immunization currently prevents between 2-3 million deaths annually, and 1.5 million deaths can be avoided if the global coverage of vaccination is improved (WHO, 2021).

Available records revealed that about 13.5 million children missed out globally on basic childhood vaccines in 2022 (WHO, 2024), with Africa and Asia bearing the brunt, accounting for over 70% of the world's unvaccinated children (Adefolalu *et al.,* 2019). The World Health Organization (WHO) reported that immunization prevents 4 million deaths annually from diseases such as diphtheria, tetanus, pertussis, influenza, and measles (Centers for Disease Control and Prevention, 2023). The immunization of a larger population against such diseases results in the generation of "herd immunity". This provide protection to the community, particularly the unvaccinated. To achieve herd immunity, a target of 90%-95% immunization coverage is needed (Dassarma *et al.,* 2022). However, there is a great variation between immunization rates in developing versus developed countries (WHO, 2021; Kalaij et al., 2021). A look at the infant mortality rate (IMR) of developed and developing countries (including Nigeria), revealed a higher increased in the incidence of mortality and morbidity among children globally. Therefore,

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increasing the general population's access to immunization services may reduce IMR (United Nation, 2019).

The perception of parents towards immunization can greatly influence its uptake among children (Ellithorpe, 2022). UNICEF has identified several factors disrupting routine immunization, such as supply shortages, social distancing requirements, and vaccine hesitancy, which includes delays, doubts, or refusal stemming from mistrust, perceived risks, or limited access to services (Thirunavukkarasu et al., 2023). Additionally, remote areas face hurdles like distance from healthcare facilities and socio-economic barriers, which exacerbate limited awareness about immunization benefits (Adavalath et al., 2023). Studies show that one in five children residing in Africa has not received all the necessary vaccinations based on WHO guidelines. Over 30 million under-five children have VPD every year, while over 500,000 children die annually, leaving Africa responsible for about 58% of VPD-related deaths globally (WHO, 2024).

In spite of the progress in immunization globally, the sub-Saharan Africa continues to experience low immunization coverage, which contributes significantly to child mortality. In Nigeria, the Expanded Programme on Immunization (EPI) was introduced in 1979 to reduce the burden of childhood diseases (WHO, 2023). However, it is not encouraging to note that immunization coverage in Nigeria is below GVAP goals, putting a significant number of children's lives at risk. Multiple Indicator Cluster Survey (MICS) and National Immunization Coverage Survey (NICS) reported that, in 2021, only 57% of children between 12-23 months of age in Nigeria completed their three doses of preventable vaccine. Therefore, parents' perception, knowledge, and attitude is an important factor for better immunization coverage (Hussain et al., 2021). It is against this backdrop that the study investigate the perception perception and attitude of parents towards immunization against children diseases in Bauchi LGA, Bauchi State, Nigeria. Specifically, the objectives of the study were to;

i. describe the demographic characteristics of the respondents in the study area;
ii. assess the perception of parents towards immunization of their children against the child killer diseases;
iii. examine parents attitude towards the immunization of their children.

The Study Area

The study was conducted in Bauchi Local Government Area (LGA) of Bauchi State, Nigeria. The LGA is part of the Bauchi State which was created following the creation of the local governments in the country in 1988. Bauchi LGA is the state capital of Bauchi State and has its headquarters at Bauchi since 1989. The Local Government is divided politically into twelve (12) wards. The LGA has a total land mass of 3,687 km^2 and 2026 projected population estimates of 1,200,000 (NBS, 2025). Bauchi LGA has a Tropical savanna climate,

which means it features distinct wet and dry seasons throughout the year. The area is generally warm. The temperature of the area range from about 28.5°C-37.4°C with an annual rainfall of 500-1300mm and relative humidity of 30%-80% (NIMET, 2026) . Majority of the inhabitants of this community are Hausa and Fulani. The main occupation of the people of Bauchi LGA is farming.

Research Design

The design of the research is descriptive survey. It was a qualitative study which was presented in descriptive manner. The data were described and analyzed using frequency and percentages.

Population of Study

The population used for this study consist of parents dwelling in Bauchi LGA totaling 34,880 (i.e. men and women).

Sampling Technique and Sample Size

The Raosoft® Sample Size Calculator was used to determine the required sample size needed for this study. The calculated sample size was *n* = 120 parents, given a 95% confidence level and 5% margin of error. A simple random sampling technique was used to select the respondents from the study population.

Method of Data Collection

Data were collected using the structured questionnaire and focus group discussion (FGD). The questionnaire was administrated to the parents by trained enumerators. During this study a total of 110 questionnaires were retrieved and 10 were not retrieved.

Data Analysis

Data collected were analyzed using descriptive statistics. Descriptive statistics such as frequency, percentage and mean were used to analyze the objectives of the study.

Demographic Characteristics of the Respondents

The result in Table 1 revealed the demographic characteristics of the respondents. The result shows that majority of the respondents fell within the age bracket of 51 years and above (36.4%), followed by 31-50 years (31.8%) and ≤30 years (31.8%) respectively. This align with the findings of Sakila et al. (2025) who reported that the age of the participants ranged from 18-71 years, with a mean of 35.44 years. Similarly, Solagbade and Titiloye (2023) revealed that more than half (54.1%) of the respondents were within the age range of 25-34 years. GebreEyesus et al. (2021) also reported a similar results with 30.6% of the respondents falling within the age group of 25-29 years. The result also revealed that both males and females participated in the study. Majority (52.7%) of the respondents were

female with a significant proportion (47.3%) of male. This was supported by Hussain et al. (2021) who revealed that (55.8%) of the respondents were male.

Consequently, the result on the occupational distribution of the respondents revealed that a greater proportion of the respondents were civil servant (36.4%), followed by health personnel (31.8%), farming (17.3%), and business (14.5%) respectively. This correspond with Sakila et al. (2025) who revealed that, 45.5% of parents were service holders, 43.8% were businessmen, and 10.7% were workers. Hussain et al. (2021) also showed 11.3% of the respondents were working in government organizations, 7.9% in the healthcare sector, 19.4% in the private sector, 11.9% were entrepreneurs/running their own business, 17.5% in the education sector, 3.1% were blue-collar workers, 2.4% were bankers, lawyers, and religious scholars, and 22.5% did not mention their workplace/affiliation. The result on the distribution of the respondent according to marital status revealed that majority of the respondents (54.5%) were married, followed by 34.5% widowed and 11.0% divorced. This results were in line with reports by Adedire et al. (2021) and Abimbola et al. (2023) which considered marriage to reflect the prevailing cultural norms of the study areas. GebreEyesus et al. (2021) showed that 86.6% of parents who participated in this study were married.

The result further revealed the educational distribution of the respondents. The result revealed that a greater proportion of the respondents (46.4%) had secondary education, 29.1% had tertiary education, while 23.6% and 11.9% had primary and non-formal education respectively. This agrees with the findings of Sakila et al. (2025) who revealed that 42.9% of mothers had schooling, 27.7% attended college, and 29.5% had a university education. For fathers, educational levels varied, with 42% having completed school, 20% college, and 37.5% university. Similarly, Hussain et al. (2021) reported that 1.9% of them had no formal education; 3.6% had education up to the primary level, 15.4% had education up to the secondary, and 5.2% had completed their higher secondary education. About one-third of the respondents (37.95%) were graduates, and 35.86% had MSc/MA. The household size of the respondents revealed that 54.6% had 1-5 children, 36.4% had 6-10 children while 9.1% had more than 10 children. This are in agreement with Sakila et al. (2025) who revealed that 41.8% of parents had one or two children, 34.7 % had three or four children, and only 23.5 % had more than four children. Fifty-one percent of the parents had a university education or higher.

Table 1: Distribution of the Respondents According to their Demographic Characteristics

S/N	Variables	Frequency (f)	Percentage (%)
1	**Age**		
	≤30 years	35	31.8
	31-50 years	35	31.8
	Above 51 year	40	36.4
2	**Sex**		

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S/N	Variables	Frequency (f)	Percentage (%)
	Male	52	47.3
	Female	58	52.7
3	**Marital Status**		
	Married	60	54.6
	Single	0	0
	Widowed	38	34.5
	Divorced	12	11.0
4	**Educational Level**		
	No Formal Education	12	11.9
	Primary	26	23.6
	Secondary	40	46.4
	Tertiary	32	29.1
5	**Household Size**		
	1-5	60	54.6
	6-10	40	36.4
	Above 10	10	9.1
6	**Occupation**		
	Health personnel	35	31.8
	Farming	19	17.3
	Civil servant	40	36.4
	Business	16	14.5
	Total:	**110**	**100%**

Source: Field survey, 2026

Perception of Parents towards Immunization on their Children

Table 2 shows the perceptions of parents towards immunization of their children against killer diseases in the study area. The result shows that majority of the respondents (81.8%) indicates that their children 0-5 years need immunization against the killer disease while 18.2% were unaware of the impact of given immunization to their children. This align with the findings of Sakila et al. (2025) which revealed a high percentage of mothers agreed with statements supporting immunization's benefits, with over 90% acknowledging the importance of the first dose immediately after birth ($\bar{x}$ = 3.44) and the belief that vaccines help keep children healthy ($\bar{x}$ = 3.73) while 72.3% strongly agreed that receiving all recommended vaccines is crucial for their children. The respondent who do not believe immunization can protect their children is high due to their wrong perception and inadequate knowledge of immunization (56.4%) while 43.6% perceived routine immunization to protect their children against killer diseases as supported by Hussain et al. (2021) who revealed that majority of the respondents (96.85%) believed that child immunization was important, while 91.1% agreed that immunization was safe for children.

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Additionally, the result revealed that majority (63.6%) of the respondent believed that immunization is not safe when given to 0-5 years children due to their wrong perception while 36.4% believe that immunization is safe. This correspond with the findings of Solagbade and Titiloye (2023) who revealed that majority (91.5%) disagreed that children usually take too many vaccines during these campaigns and it is dangerous. Also, 24.6% agreed that vaccination will not work if given severally, almost all the respondents (98.7%) disagreed that vaccines are not effective in stopping children from catching diseases. The result further revealed that a greater proportion (63.6%) of the respondent viewed immunization as a mean of family planning method to reduce the level of conception among children in the future while 36.4% were against the perception that immunization is seen as a means of family planning. However, there were also misconceptions and concerns regarding vaccination, particularly regarding its necessity and potential side effects (Sakila et al., 2025). Based on the findings of the study, perceptions of the respondents were largely favourable. More than half (55.2%) rejected the notion that vaccines are ineffective, although 38.8% remained unsure about vaccine potency. Several studies on parents perception on childhood immunization revealed that child immunization are safe and important against child killer diseases (Adedire et al., 2021; Adeniyi et al., 2023).

Table 2: Distribution of the Respondents Perceptions towards Immunization on their Children against Killer Diseases

S/N	Variables	Frequency (f)	Percentage (%)
1	Do you know that your children 0-5 years need to be immunized against the killer disease?		
	Yes	90	81.8
	No	20	18.2
2	Do you belief immunization protect children against killer diseases?		
	Yes	49	43.6
	No	62	56.4
3	Do you belief immunization is safe if given to children?		
	Yes	40	36.4
	No	70	63.6
4	Do you see immunization as the means of family planning method?		
	Yes	70	63.6
	No	40	36.4
	Total:	**110**	**100%**

Source: Field survey, 2026

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Attitude of Parents towards Immunization on their Children

The result in Table 3 shows that a significant majority of the respondents (81.2%) do not hide their children in door during immunization activities while 18.2% hide their children during immunization due to wrong perception on the effect of immunization. This corroborate with GebreEyesus et al. (2021) who reported that 18.7% of the respondents hide their children during the activity with the belief that immunization makes infants sick,and can affect their life negatively. Consequently, majority of the respondents (56.4%) immunized their child 0-5 years while 43.6% do not immunized their children. This agrees with the findings of Alqassim et al. (2022) who reported that the parental attitudes towards child immunization were generally positive among most parents involved. Most parents agreed that child vaccination is essential (96.6%), more beneficial than harmful (89.5%), and safe (86.8%). Solagbade and Titiloye (2023) demonstrated the proportion of respondents' level of perception (15.4%) had a negative attitude, 84.6% had positive attitude on supplementary immunization campaign.

The result further revealed that 81.2% observed the immunization according to scheduled while 18.2% do not observe immunization based on scheduled. This corroborate with Alqassim et al. (2022) who revealed that majority of parents agreed that it is necessary to follow the immunization schedule (95.1%) and that immunity keeps the child healthy (96.9 %). Similarly, GebreEyesus et al. (2021) reported that majority of the respondents (86.6%) thought that compliance to immunization schedule is important. Also, 63.6% ensure that their children complete the immunization while 36.4% do not most often complete their children immunization. The result on overcoming the wrong attitudes of parents towards childhood immunization revealed that majority of the respondents (75.5%) are of the view that creating awareness to change their belief on wrong attitude of parent on immunization, increase in political will of government officials to provide immunization services (9.1%), increase in the number of health personnel (9.1%), and improve health facilities and delivery (6.4%) respectively. Majority of the respondent (90.0%) had once immunized their children against killer disease while only 10.0% have never tried immunization even for once against their child killer diseases which should either be attributed to poor perception, religion, traditional or cultural belief on immunization. Alqassim et al. (2022) reported that approximately 85% of the parents disagreed that vaccination is prohibited for religious reasons and 62.6% agreed that immunization is associated with side effects.

Table 3: Distribution of the Respondents Attitudes towards Immunization on their Children

S/N	Variables	Frequency (f)	Percentage (%)
1	Have you ever hide your children behind door, for them not to received immunization programme?		

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S/N	Variables	Frequency (f)	Percentage (%)
	Yes	20	18.2
	No	90	81.2
2	Do you immunized your children 0-5 years?		
	Yes	62	56.4
	No	48	43.6
3	Do you observed it according to scheduled?		
	Yes	90	81.2
	No	20	18.2
4	Do you ensure your children complete the immunization?		
	Yes	70	63.6
	No	40	36.4
5	Have you ever immunized your children 0-5 years?		
	Yes	99	90
	No	11	10
6	How do you think the wrong attitude of parent on immunization of their children can be addressed?		
	A. Create awareness to change their belief	83	75.5
	B. Increase in political will of government officials to provide immunization services	10	9.1
	C. Increase in the number of health personnel	10	9.1
	D. Improve health facilities and delivery	7	6.4
	Total:	**110**	**100%**

Source: Field survey, 2026

CONCLUSION

The findings of the study revealed a significant level of perceptions and attitudes of parents towards childhood immunization in the study area. The results showed that parents had good perception and positive attitudes towards immunization and in most cases often immunized their children's against killer diseases. However, there is still a serious concern on the perception and attitudes of some parents regarding the efficacy, adverse reactions, contraindications, safety, religious, cultural and traditional belief on childhood immunization or vaccines. Therefore, effort should be made by the concern authorities to critically carried out more educational programs on childhood immunization to avert the ill concerns of parents' knowledge on immunizations.

RECOMMENDATIONS

Considering the findings of the study, the following recommendations were made:

1. Government should embark on mass literacy campaigns to elevate the level of parents knowledge on the impact of child immunization.
2. Proper financial support is required to facilitate the effectiveness of childhood immunization.
3. Adequate training and remunerations should be provided to enhance the morale of health personnel for better performance.
4. Government should also improve her road network to ease transportation and improve immunization turn-up.

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Conflict of interest

No conflict of interest is associated with this research.

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