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ATTITUDE OF MOTHERS TOWARDS UTILIZATION OF IMMUNIZATION SERVICES IN EKET LOCAL GOVERNMENT AREA OF AKWA IBOM STATE

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Abstract

The purpose of this study was to determine the attitude of mothers towards the utilization of immunization services in Eket Local Government Area of Akwa Ibom State. To achieve the purpose of this study, two null hypotheses were formulated and tested at a 0.05 level of significance. A review of relevant literature was carried out according to the variables in the study. Survey research design was employed for the study. Simple random sampling technique was adopted to select the six communities while a purposive sampling technique was employed to select the two hundred and forty-three (243) respondents used for the study. A structured questionnaire was the instrument utilized for data collection. The instrument was vetted by relevant authorities. Pearson Product Moment Correlation and One-way Analysis of Variance statistical tools were used to test the hypotheses formulated for the study for data analysis among mothers in Eket Local Government Area of Akwa Ibom State at 0.05 alpha level or level of significance. The result of the analysis of data and hypotheses testing revealed that there was a significant relationship between knowledge of immunization and family income on the attitude of mothers towards the utilization of immunization services in Eket L.G.A. Based on these findings, it is recommended among others that Health Educators should continue to sensitize mothers within the study area to further empower them with the relevant knowledge required for the effective utilization of immunization services for their children.

Keywords: Attitude of Mothers, Utilization of Immunization Services, Knowledge of Immunization, Family Income

Introduction

Immunization remains one of the most important public health interventions and a cost-effective strategy to reduce both the morbidity and mortality associated with vaccine-preventable diseases. The uptake of vaccination services is dependent not only on the availability of and accessibility to vaccination services but also on other factors including knowledge and attitude of mothers. Immunization is a critical component of global health, protecting individuals and communities from vaccine-preventable diseases. According to the World Health Organization (2022), immunization prevents approximately 2-3 million deaths annually.

Okafor (2022) asserted that understanding maternal perceptions and knowledge about immunization helps health planners develop effective health education programs and messages. While the reasons for low immunization coverage have been proffered in general, mitigation efforts have focused on health system factors, but little attention has been paid to maternal knowledge, perception, beliefs, and practice. Understanding mothers´ knowledge and attitudes towards immunization could guide this aspect of multi-pronged efforts to improve routine immunization coverage.

Immunization against common childhood diseases is an important strategy as it is critical for reducing global child morbidity and mortality. However, some studies have shown that even with the importance of immunization known to parents, there are still vaccine-hesitant parents (Babalola, 2019). Vaccine hesitancy is also influenced by factors such as complacency, convenience and confidence. Parental forgetfulness can have a substantial impact on a child being fully immunized with all the recommended vaccines (polio, measles, diphtheria, tetanus, etc). Parental attitudes, experiences and social grade are influential in determining whether a child receives a vaccine.

Routine immunization in Nigeria is essential for protecting children from preventable diseases like polio, measles, diphtheria, influenza, chickenpox, tetanus, hepatitis A, etc. It's a critical public health strategy aimed at reducing morbidity and mortality rates among children, ensuring a healthier future generation. Additionally, routine immunization helps in achieving herd immunity, thereby safeguarding the entire community from outbreaks of vaccine-preventable diseases. However, challenges such as vaccine hesitancy, logistical issues, and inadequate healthcare infrastructure need to be addressed to ensure the success of immunization programs in Nigeria. Improving mothers' attitudes towards routine immunization in Nigeria involves various strategies. Onah (2021) reported engaging communities through local leaders, religious figures, and community health workers to promote the importance of immunization and address misconceptions. Providing education on the benefits of vaccination, and addressing concerns and myths about vaccines through community outreach programs, workshops, and media campaigns.

Ensure vaccines are readily available and accessible to all mothers, especially in remote and underserved areas, by strengthening healthcare infrastructure and increasing the number of vaccination sites.

There are certain determinants of the attitude of mothers towards immunization. Elvis (2021) asserted that the influence of knowledge on mothers' attitudes towards immunization is significant. When mothers are well-informed about the benefits and importance of immunization, they are more likely to have positive attitudes and comply with vaccination schedules for their children. Knowledge empowers mothers to make informed decisions, dispels myths and misconceptions, and fosters trust in healthcare providers and vaccination programs (Akorede, 2024). Eke (2022) stated that there can be a correlation between maternal income and attitudes towards immunization. Generally, higher maternal income tends to correlate with more positive attitudes towards immunization, possibly due to increased access to healthcare information and resources (Akorede, Muhammed, Isiaq & Akorede, 2022). However, individual attitudes can vary significantly based on cultural, educational, and other factors.

Literature Review

Knowledge of Immunization and the Attitude of Mothers towards Immunization

Knowledge of immunization plays a critical role in influencing the utilization of immunization. Understanding the importance of immunization in preventing infectious diseases increases the likelihood of seeking immunization services. Knowledge about the safety and efficacy of vaccines builds trust in immunization services, encouraging people to utilize them. Being informed about the availability and accessibility of immunization services enables individuals to take advantage of them when needed. Knowing the benefits of immunization, such as reducing the risk of illness and protecting vulnerable populations, motivates people to utilize immunization services for themselves and their communities. Understanding the risks associated with vaccine-preventable diseases helps individuals appreciate the importance of vaccination and motivates them to utilize immunization services. Knowledge of herd immunity and its role in protecting entire communities reinforces the importance of individual immunization, thus promoting the utilization of immunization services. Overall, knowledge of immunization is a powerful factor that can positively influence the utilization of immunization services by empowering individuals to make informed decisions about their health and the health of their communities (Davies, 2022).

Knowledge plays a crucial role in the utilization of immunization services by influencing various aspects such as awareness of available vaccines, understanding of their importance, and confidence in their safety and efficacy. When people are informed about the benefits of immunization, they are more likely to seek out and utilize immunization services for themselves and their families. Additionally, knowledge about vaccine schedules and the importance of timely vaccinations can help ensure optimal utilization of immunization services, leading to better public health outcomes. Willock (2023) maintained that the level of knowledge and utilization of immunization services among mothers varies depending on factors such as education, socioeconomic status, and access to healthcare facilities. Generally, higher levels of education and better access to healthcare tend to correlate with higher levels of knowledge and utilization of immunization services. Educational campaigns and community outreach programs can help improve awareness and utilization of immunization services among mothers.

Protection from diseases is one of the uttermost benefits that any country can offer to its people. Vaccines are certainly an essential part of a health system, an effective tool for controlling diseases in many countries around the world, and the most cost-effective mechanism for morbidity and mortality prevention that permits people to better protect themselves from particular bacteria and viruses. To have the greatest protection against diseases, children should receive all their vaccinations within recommended intervals and at the appropriate age. Vaccinating a child with appropriate vaccines would significantly reduce the costs of disease treatment and rates of disease and, therefore, improve the quality of the child's life. The level of knowledge parents have regarding child vaccination and their attitudes towards vaccination may influence their practice. Major obstacles towards the high coverage of children include a lack of knowledge or information on vaccination, low levels of awareness or negative attitudes regarding vaccination, and misperceptions or rumours regarding the safety of vaccination (Kingston, 2022).

On the other hand, a study by Verulava (2021) which included 60 mothers and used frequencies and percentages for statistical analysis of the data collected, revealed that most of the mothers (65%) did not know the reason for the vaccinations, but they knew the right age for the vaccinations and when they must start. Fifty-nine per cent believed that vaccination is not harmful. Thus, the attitudes of the mothers regarding vaccination were good, because most of the mothers believed in the importance of vaccination and they followed the vaccination schedule.

The results of a study by Ramadan (2022) indicated that 462 out of 1050 participating mothers lacked knowledge regarding obligatory vaccinations, while only six had poor attitudes toward obligatory vaccinations, and 265 of the mothers had a low practice score. Moreover, the study showed that there was a positive Pearson's correlation (0.037) between the mother's age and the level of knowledge. Moreover, Birhanu (2021) revealed that 55.0% (626) of the participating mothers had a good level of knowledge, while 53.8% had a positive attitude, and 84% good practices regarding child vaccinations. Therefore, the study

concluded that the knowledge and attitudes of the participating mothers towards child vaccination were not enough, and they recommended further health education for mothers to promote knowledge.

Mahalingam (2021) conducted a study including 200 mothers. Using a *t*-test, it was revealed that there was a significant difference between urban mothers and rural mothers regarding their knowledge, attitudes, and practices regarding childhood vaccinations. The study found that 75.6% of the urban mothers had a high level of knowledge compared with rural mothers. In addition, 95.9% of the urban mothers had good practices compared with rural mothers. The study that included 300 mothers revealed that only 17.0% of the mothers had a good level of knowledge regarding childhood vaccinations, whereas 96.6% of the mothers had a positive attitude and 88.1% of them had good practices regarding childhood vaccinations. Moreover, this study recommended more educational programs regarding childhood vaccinations.

Family Income and Attitude of Mothers towards Immunization

Disparities existed in childhood immunization between the poor and the rich in some parts of Nigeria. Policymakers and health institution teams should institute effective intervention policies that will assist children from poor-income families to access immunization. National Population Commission (2018) reported that generally, there is inequality in wealth distribution and a wide gap exists between the rich and the poor in terms of accessing health care even at public health facilities in Nigeria where the majority of its population earns less than two dollars a day. The gap becomes wider if the poor's place of residence is far from the health facility which is the peculiar situation in the core North Nigeria.

Eric (2020) explained that not all health facilities can administer childhood immunization vaccines in Nigeria; they are only available at designated facilities. In an instance where the location of such a facility is far from the home of an impoverished mother, lack of transportation fare can deprive the woman of immunizing her child. According to Antai (2018), in core-northern Nigeria, there is a large disparity in wealth distribution between the rich and the poor; therefore, this is likely to cause variation in healthcare access between them. The inequality in household wealth has been identified to be responsible for the low immunization coverage rates in areas characterized by the core-North situation. Gram, Soremekum and Asbroek (2019) submitted that the prevalence of complete immunization was found to be considerably higher among children of the rich compared to the poor.

Cui and Gofin (2021) in a study conducted on 45 Gavi-supported countries, where inequalities in vaccination coverage were examined, the level of wealth index poverty was one of the dimensions found to be associated with the largest inequalities in childhood immunization coverage. Devasenapathy and Ghosh (2019) stated that complete vaccination probability was higher among children from the highest wealth quintile household compared with the poorest Yenit, Assegid and Abrah (2015) stipulated that several factors are related to low immunization status such as family wealth and rural residence, child sex and age, long distance to health facilities low access to immunization services, poor health infrastructure, inadequate awareness of mother (caregivers, mothers perception to the accessibility of vaccines, missed opportunity, place of delivery, living attitude, lower number of trained manpower and high staff turnover.

The level of family income has been associated with immunization coverage by many; however, various studies looked at the role of parents/mothers' income level in the completion of immunization schedules in different countries and communities (Abdulbaqi, Tejideen & Isiaq, 2024). And the findings from these studies have shown various scenarios that have left some gaps in the literature. A study on the factors influencing compliance with immunization regimen among mothers in Moniya Community Ibadan, Nigeria (Rahji & Ndikom, 2019), and a similar study on the reasons for incomplete vaccination and factors for missed opportunities among rural Nigerian children indicates that children of parents of lower socioeconomic background have reported poor completion of their immunization regimen than children of parents of higher socioeconomic background (Abdulraheem & Onajole, 2021).

The correlation between household income and immunization service utilization is often significant. Lower-income households may face barriers such as lack of access to healthcare facilities, transportation, and information, resulting in lower immunization rates compared to higher-income households. Efforts to address these disparities often involve targeted outreach programs, education initiatives, and ensuring affordable access to vaccines for all socio-economic groups. Income can significantly affect the utilization of routine immunization. Lower-income families may face barriers such as lack of access to healthcare facilities, inability to afford transportation costs, or missed wages due to seeking immunization services. This can lead to lower immunization rates among economically disadvantaged populations compared to wealthier ones. Additionally, education levels and awareness about the importance of immunization can vary among different income groups, influencing their utilization of routine immunization services (Caius, 2021).

According to Elliot (2019), financial support can significantly impact a mother's utilization of immunization services for her children. When financial resources are limited, mothers may face barriers such as transportation costs, missed work, or the inability to afford healthcare expenses. Providing financial support, whether through subsidies for vaccines or assistance with transportation costs, can help improve access to immunization services and increase vaccination rates among children. Additionally, education and outreach programs can help raise awareness about the importance of immunizations and encourage

mothers to prioritize their children's health despite financial constraints. The financial capacity of a household can significantly impact maternal utilization of immunization services. Lower financial capacity may result in barriers such as the inability to afford transportation to healthcare facilities, out-of-pocket costs for vaccines, or missed work to attend appointments. This can lead to lower immunization rates among mothers and their children, affecting public health outcomes.

Purpose of the Study

The purpose of this study was to investigate determinants of the attitude of mothers towards utilization of immunization services in Eket Local Government Area of Akwa Ibom State, Nigeria. Specifically, the study sought to:

1. Examine the relationship between knowledge of immunization and the attitude of mothers towards the utilization of immunization services.
2. Assess how family income influences the attitude of mothers towards the utilization of immunization services.

Research questions

1. How does knowledge of immunization relate to the attitude of mothers towards the utilization of immunization services?
2. To what extent does family income influence the attitude of mothers towards the utilization of immunization services?

Statement of hypotheses

1. There is no significant relationship between knowledge of immunization and the attitude of mothers towards the utilization of immunization services.
2. Family income does not significantly influence the attitude of mothers towards the utilization of immunization services.

Methodology

Survey research design was adopted for this study. The survey design is considered most suitable because the researcher intends to investigate determinants of the attitude of mothers towards the utilization of immunization services. The population of the study consisted of all nursing mothers in Eket Local Government Area of Akwa Ibom State. Records from the State Ministry of Health revealed that there were 12,327 nursing mothers in the study area at the time of this investigation. Simple random sampling technique was adopted in selecting the communities used for the study. The sample of the study consisted of two hundred and forty-three (243) nursing mothers, selected from six (6) communities in Eket Local Government Area of Akwa Ibom State using a purposive sampling technique to ensure that only nursing mothers were selected for the study.

Instrumentation

The instrument used for the data collection in the study was a questionnaire titled Attitude of Mothers towards Utilization of Immunization Services Questionnaire (AMUISQ). The questionnaire was divided into two (2) sections. Section A contained respondents' data. Section B was developed using a modified four-point Likert scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). It contained twenty items measuring the variables of the study. Items 1-5 measured knowledge of immunization, items 6-10 measured family income, and items 11-20 measured the attitude of mothers towards the utilization of immunization services. To ensure the validity of the instrument for data collection, the research presented the designed instrument to a Lecturer in Human Kinetics and Health Education and Measurement and Evaluation for face and content validity. A few modifications were made to some of the items in the research instrument to improve its validity. Data used for the study was obtained directly from respondents through the use of questionnaire designed for data collection. All the null hypotheses were restated and the independent variables and dependent variables were identified as well as the statistical tools utilized for data analysis, which were tested at a 0.05 level of significance.

Result and Discussion

Hypothesis One

There is no significant relationship between knowledge of immunization and the attitude of mothers towards the utilization of immunization services. The independent variable in this hypothesis is knowledge of immunization while the dependent variable is the attitude of mothers towards utilization of immunization services. Pearson Product Moment Correlation Statistical Tool was used for data analysis. The result of this analysis is presented in Table 1.

Table 1: Pearson Product Moment Correlation Analysis of the Relationship between Knowledge of Immunization and Attitude of Mothers towards Utilization of Immunization Services (N=243)

Variables	$\sum x$ $\sum y$	$\sum x^2$ $\sum y^2$	$\sum xy$	Cal.r	P.value
Knowledge of immunization	3639	4268	5327	0.372*	0.000
Attitude of mothers towards immunization	6353	6852			

*Significant at 0.05; df = 237

As presented in Table 1, the result of this analysis showed that the calculated r-value of 0.372 is higher than the p.value of 0.000 at a 0.05 level of significance with 237 degree of freedom. This indication of this result is that the null hypothesis is rejected. As a result, there is a significant relationship between knowledge of immunization and the attitude of mothers towards the utilization of immunization services in Eket Local Government Area of Akwa Ibom State.

Hypothesis Two

Family income does not significantly influence the attitude of mothers towards the utilization of immunization services. The independent variable in this hypothesis is family income while the dependent variable is the attitude of mothers towards utilization of immunization services. One-way analysis of variance statistical tool was employed for data analysis. The result obtained is presented in Table 2.

Table 2: One-way analysis of variance of the influence of family income on the attitude of mothers towards utilization of immunization services in Eket Local Government Area of Akwa Ibom State

Family income		**N**	**$\bar{X}$**	**SD**	
Low		48	26.748	2.683	
Medium		116	26.352	2.511	
High		79	27.016	2.730	
Total		243	26.583	2.642	
Source of variance	SS	df	MS	F	P.value
Between groups	152.435	2	413.135	1.214	.027
Within groups	1782.344	241	2.512		
Total	1934.779	243			

Not significant at 0.05; df= 236

The result as presented in Table 2 shows that the calculated F-value of 1.214 is less than the p.value of 0.027 at 0.05 level of significance with 2 and 236 degree of freedom. This implies that the null hypothesis is rejected. Therefore, there is a significant influence of family income on the attitude of mothers towards the utilization of immunization services in Eket Local Government Area of Akwa Ibom State.

Discussion of Findings

The findings obtained from the analysis of data and testing of the first hypothesis in the study showed that the null hypothesis was rejected. The implication of this finding is that there was a significant relationship between knowledge of immunization and the attitude of mothers towards the utilization of immunization services in Eket Local Government Area of Akwa Ibom State. The reason for this finding could be that the damage caused by the six childhood killer diseases to children has been devastating over the years. This has prompted parents and government agencies to find solutions, which immunization is key. The understanding of the benefits associated with immunization has encouraged several mothers to embrace routine immunization for their children. The knowledge mother has acquired with regard to immunization is largely responsible for their utilization of immunization services in the study area.

The finding of this study agrees with that of Davies (2022) who reported that knowledge of immunization plays a critical role in influencing the utilization of immunization. Understanding the importance of immunization in preventing infectious diseases increases the likelihood of seeking immunization services. Knowledge about the safety and efficacy of vaccines builds trust in immunization services, encouraging people to utilize them. Being informed about the availability and accessibility of immunization services enables individuals to take advantage of them when needed. Knowing the benefits of immunization, such as reducing the risk of illness and protecting vulnerable populations, motivates people to utilize immunization services for themselves and their communities. Understanding the risks associated with vaccine-preventable diseases helps individuals appreciate the importance of vaccination and motivates them to utilize immunization services. Knowledge of herd immunity and its role in protecting entire communities reinforces the importance of individual immunization, thus promoting the utilization of immunization services. Overall, knowledge of immunization is a powerful factor that can positively influence the utilization of immunization services by empowering individuals to make informed decisions about their health and the health of their communities.

The findings obtained from the analysis of data and testing of the second hypothesis in the study showed that the null hypothesis was accepted. The implication of this finding is that there was no significant influence of family income on the attitude of mothers towards the utilization of immunization services in the Eket Local Government Area of Akwa Ibom State. The reason for this finding could be that the income of most mother involved in this study did not constitute a barrier to their utilization of immunization services. Immunization services are not high-cost intensive services that require much financial commitment. This is because, in most instances, healthcare workers visit residences to administer the vaccine to children within the specified age limit.

The finding of this study is contrary to that of Eric (2020) who explained that not all health facilities can administer childhood immunization vaccines in Nigeria; they are only available at designated facilities. In an instance where the location of such a facility is far from the home of an impoverished mother, lack of transportation fare can deprive the woman of immunizing her child. The findings further collaborated with that of Antai (2018), in core-northern Nigeria, there is a large disparity in wealth distribution between the rich and the poor; therefore, this is likely to cause variation in healthcare access between them. The inequality in household wealth has been identified to be responsible for the low immunization coverage rates in areas characterized by the core-North situation. Gram, Soremekum and Asbroek (2019) also supported that the prevalence of complete immunization was found to be considerably higher among children of the rich compared to the poor.

Conclusion

The purpose of the study was to investigate and present findings on the attitude of mothers towards the utilization of immunization services in Eket Local Government Area of Akwa Ibom State. The findings obtained from the analysis of data and testing of hypotheses in the study revealed that there was a significant relationship between knowledge of immunization. The finding further revealed that there was no significant influence on family income and mothers' attitudes towards the utilization of immunization services in the study area.

Recommendations

Based on the findings obtained from the analysis of data and testing of the hypothesis in the study, the following recommendations are made:

1. Health Educators should continue to sensitize mothers within the study area to further empower them with the relevant knowledge required for effective utilization of immunization services for their children.
2. Nursing mothers across various income statuses should be adequately encouraged to continue to embrace the practice of immunization and improve the health of their children.

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