



Utilization And Factors Associated With Vaccination During Antenatal Care In Primary Health Centres In Obio/Akpor Local Government

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ABSTRACT

The overwhelming majority of morbidity and mortality in Obio/Akpor Local Government Area of Rivers State is attributed to infectious diseases that occur in infants who are 3 months and younger. This study aimed to determine the utilization and factors associated with vaccination during antenatal care among pregnant women at primary health Centres in Obio/Akpor Local Government of Rivers State. The study made use of a non-experimental descriptive study design with a proportionate sampling technique. Data was collected using structured questionnaire with a reliability coefficient of 0.80. A sample size of 321 pregnant women were sampled from a population of 3,215 pregnant women who attended the primary Health Centres within one month. Mean, standard deviation, Pearson Correlation and t-test were used for data analysis. Result reveal that the pregnant women possess utilize vaccination moderately. For the correlation; analysis revealed an $R^2 = 0.526$, P-value = 0.003 for the relationship between age and utilization; and $R^2 = 0.652$, P-value = 0.002 for the relationship between educational status and utilization which revealed a strong relationship between the variables considered. The study suggests important focus points for informing and implementing educational activities for the benefits of utilization of antenatal vaccination among women to reduce the high rate of morbidity and mortality associated with infections that occur in pregnant women and infants.

Keywords: Antenatal, Primary healthcare, Vaccination, Utilization

INTRODUCTION

An essential component of preventive healthcare, is immunization or vaccination which reduced the incidence and severity of infectious or vaccine-preventable diseases. Vaccination in pregnancy provides maternal protection through active immunization, while passive maternal antibody transfer across the placenta to the developing fetus has the potential to protect neonates and infants (Gredts, Van & Potter 2016). American College of Obstetricians and Gynaecologist says, pregnant women and neonates are particularly vulnerable to infectious disease due to altered and underdeveloped immune responses. The Advisory Committee on Immunization Practices Centres for Disease Control & Prevention (CDC) (2008) says, growing evidence on the safety and efficacy of influenza and tetanus, diphtheria, and pertussis (Tdap) immunizations in pregnancy has highlighted maternal immunization as an important strategy to reduce morbidity and mortality in women and newborns. (Swamy & Heine, 2015; Swamy & Garcia-Putham, 2014; Beigi et al., 2014; Chu & Englund, 2014; Larson, 2015).

In each country, immunization programs are monitored using two methods: an administrative method and through community-based surveys. Immunization has been shown to be the most successful and cost-effective public health intervention in the 20th century. In the developing world, it does not only prevent about three million child deaths annually, but also has the potential to prevent additional two

million deaths if coverage improves. However, immunization coverage has remained low in Nigeria although vaccines are provided relatively free by the government. Efforts have focused on the health worker, health system and logistics with little attention being paid to maternal factors like knowledge, perception, beliefs and practice (Tagbo et al., 2012). The importance of this assessment is what necessitated the researcher to embark on a research work to determine the knowledge, utilization and factors associated with antenatal vaccination among pregnant women attending antenatal clinic at primary health Centres in Obio/Akpor Local Government of Rivers State. The following research questions were answered:

1. What is the level of utilization of antenatal vaccination among pregnant women attending antenatal clinics in Primary Health Centres in Obio/Akpor Local Government of Rivers State?
2. What is the relationship between age and utilization of antenatal vaccination among women attending antenatal clinics in Primary Health Centres in Obio/Akpor Local Government Area of Rivers State?
3. What is the relationship between educational status and utilization of antenatal vaccination among women attending antenatal clinics in Primary Health Centres in Obio/Akpor Local Government Area of Rivers State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant difference in the level of utilization of primary health centres for antenatal vaccination among women attending antenatal clinics in Obio/Akpor Primary Health Centres of Rivers State.
2. There is no significant relationship between age and utilization level of pregnant women taking antenatal vaccination at antenatal clinics in Primary Health Centres in Obio/Akpor Local Government Area of Rivers State.
3. There is no significant relationship between educational status of women attending antenatal clinic in Primary Health Centres and their utilization of the Primary Health Centres for antenatal vaccination.

METHODOLOGY

This study adopted the descriptive research design. The descriptive design is one that generates data from a selected population, studying and describing events as they occur in their natural setting at a particular point in time. The study area is all the primary health centres in Obio/Akpor Local Government Area, Rivers state with a population of 3,215 pregnant women. The sample size was 321 which is 10% of the population which were selected using the proportionate sampling technique; however, 300 copies of questionnaires were used for analysis as 21 copies were deemed not correctly filled by the respondents. The instrument for data collection was structured questionnaire developed by the researcher with a reliability coefficient of 0.80. Data collection was done through administration of questionnaire and explanation given where necessary to the respondents. A face-to-face communication was adopted by using English language. Introduction of self and purpose of the study was made, questions asked were answered, and willing respondents were given the instrument for data collection. The questionnaires which were filled were retrieved immediately. Data analysis was done with the aid of Statistical Product for Service Solution (SPSS V-25) using mean, standard deviation, t-test and Pearson Correlation at 0.05.

RESULTS

The findings of the study are shown below:

Table 1: Analysis of the level of utilization of the Primary Health Centres for antenatal immunization

| S/N | Items | Mean | S.D. | Remark |
|------------------------|--|-------------|-------------|--------|
| 1 | The PHC in my community have the capacity to administer antennal vaccination | 3.44 | .95 | Accept |
| 2 | I always visits the PHC for my antenatal vaccinations | 3.49 | .59 | Accept |
| 3 | I took all the five antenatal vaccination at our community PHC | 2.90 | .65 | Accept |
| 4 | The doctors and nurses at our community PHC are very competent in antenatal vaccination | 3.37 | .65 | Accept |
| 5 | All my friends and family uses our community PHC for their antenatal vaccinations | 3.55 | .90 | Accept |
| 6 | The doctors and nurses at our community PHC are always available to administer antenatal vaccination to every woman who requested for it | 3.48 | 1.00 | Accept |
| Grand mean/S.D. | | 3.37 | 0.79 | Accept |

According to the result shown in the above table which indicates the level of utilization of primary health centres for antenatal vaccination among women taking vaccination at antenatal in Primary Health Centres in Obio/Akpor Local Government Area of Rivers state. Items 1-6 have mean values of 3.44, 3.49, 2.90, 3.37, 3.55, and 3.48 respectively. Using our already established criteria which stated that the criterion mean is 2.5; all the items possess mean values which enabled them to be accepted.

These mean figures indicates that women attending antenatal in Primary Health Centres in Obio/Akpor Local Government Area of Rivers state affirmed that the PHC in their community have the capacity to administer antennal vaccination; they always visits the PHC for their antenatal vaccinations; they took all the five antenatal vaccination at their community PHC; the doctors and nurses at their community PHC are very competent in antenatal vaccination; all my friends and family uses the community PHC for their antenatal vaccinations; and that the doctors and nurses at our community PHC are always available to administer antenatal vaccination to every woman who requested for it. Furthermore, the grand mean is 3.4. Using our criterion mean, 3.4 falls within the moderate range. Therefore, pregnant women who attends antenatal at PHC's in Obio/Akpor Local Government Area of Rivers level of utilization of the Primary Health Centres for antenatal vaccination is moderate.

Table 2: Analysis of the relationship between age and utilization

| Variables | | Age Interval | Utilization level |
|-------------------|-------------------------|--------------|-------------------|
| Age interval | Correlation coefficient | 1 | .526 |
| | Sig. (2-tailed) | | .003 |
| | N | 300 | 300 |
| Utilization level | Correlation coefficient | .526 | 1 |
| | Sig. (2-tailed) | .003 | |
| | N | 300 | 300 |

From the analysis table above, a positive relationship exists between age and utilization level of antenatal vaccination. The calculated coefficient of correlation (R) is 0.526 and a p-value is 0.003. Using a significant level of 0.05, the calculated p-value <0.05 which mandated us to reject the

proposed hypothesis and embrace its alternative. Furthermore, the correlation coefficient is 0.526; this value indicates a moderate relationship between their age and their utilization of the Primary Health Centres for antenatal vaccination purposes. Therefore, we can conclude that there is a significant positive relationship between age and utilization level of women taking vaccination at antenatal clinic in Primary Health Centres in Obio/Akpor Local Government Area of Rivers State.

Table 3: Analysis of the relationship between educational status and utilization

| Variable | | Educational Status | Utilization level |
|--------------------|-------------------------|--------------------|-------------------|
| Educational Status | Correlation coefficient | 1 | .652 |
| | Sig. (2-tailed) | | .002 |
| | N | 300 | 300 |
| Utilization level | Correlation coefficient | .652 | 1 |
| | Sig. (2-tailed) | .002 | |
| | N | 300 | 300 |

From the analysis table above, a positive relationship exists between educational status and utilization level for antenatal vaccination. The table summarizes the analysis of the relationship between the women educational Status and their utilization of the Primary Health Centres' for antenatal vaccination purpose using Pearson correlation. The calculated coefficient of correlation (R) is 0.652 and a p-value is 0.002. Using a significant level of 0.05, the calculated p-value <0.05 which mandated us to reject the proposed hypothesis. Furthermore the correlation coefficient (R) is 0.652; this value indicates a moderate relationship between their educational status and their utilization of the Primary Health Centres for antenatal vaccination purposes. Therefore we can conclude that there is a positive significant relationship between educational statuses of women attending antenatal clinic in Primary Health Centres Obio/Akpor Local Government Area of

Table 4: t-test Analysis difference in the level of utilization of primary health centres for antenatal vaccination among women attending antenatal clinics in Obio/Akpor

| | t | t _{table} | df | Mean difference | p-value |
|----------------------|-------|--------------------|-----|-----------------|---------|
| Level of utilization | 171.8 | 1.660 | 299 | 28.2697 | .000 |

Table 4 t-test table shows that at degree of freedom of (299), the calculated t-test value is 171.8, p-value obtained is 0.000 while the t_{table} value is 1.660. The t_{cal} > t_{table} while the p-value obtained (0.000) is less than the 0.05. The researcher rejects the null hypotheses and concludes that there is significant difference in the level of utilization of primary health centres for antenatal vaccination among women attending antenatal clinics in Obio/Akpor Primary health centres. The significance difference mean is 28.2697.

DISCUSSION OF FINDINGS

According to the findings obtained from the analysis, there is moderate level of utilization of primary health centres for antenatal vaccination among women attending antenatal at Primary Health Centres in Obio/Akpor Local Government Area of Rivers State. This finding affirmed the findings of Godongwanaa et. al. (2021) who established a positive attitude and high acceptability of maternal immunization in urban South Africa. It however contradicts Erazo et. al. (2021) who reported a low vaccination rate (36.6%) against influenza was observed among pregnant women that, only 27.9% reported a positive willingness to receive all the recommended vaccinations during pregnancy. Also it contradicts Agricola et. al., (2016) who reported that only 1.7% of women in the postpartum had received the vaccination during pregnancy, and 21% of pregnant women declared the intention to be vaccinated in pregnancy, and that only 34% would accept the vaccination in the current or in a future pregnancy, if recommended by a physician, and a half would remain uncertain.

According to the findings obtained from the analysis, there is a significant positive relationship between age and utilization level of women taking vaccination at antenatal clinic in Primary Health Centres. This can be deduced from the correlation coefficient (R) and p-value of 0.526 and 0.003

respectively. Result from this study affirmed that obtained by Azfar-e-Alam et al (2010) who found out that in Karachi Pakistan, age is closely related to knowledge and utilization of vaccination. According to the findings obtained from the analysis, there is a significant positive relationship between educational status of women attending antenatal clinic in Primary Health Centres and their utilization of the Primary Health Centres for antenatal vaccination. This can be deduced from the correlation coefficient (R) and p-value of 0.652 and 0.002 respectively. Result from this study affirmed that obtained by Azfar-e-Alam et al (2010) who found out that in Karachi Pakistan, educational level is closely related to knowledge and utilization of vaccination. It also confirmed the works of Chris-Otubor et al. (2015) in Enugu; Tagbo et al. (2012), Tagbo et al. (2013) in Oshogbo; Obiajunwa and Olaogun (2013) in Ibadan; these studies revealed that the higher the level of education, the higher the knowledge of immunization.

CONCLUSION

Using the findings from the analysis, it was therefore concluded that women attending antenatal clinic in Primary Health Centres in Obio/Akpor Local Government Area of Rivers State had a moderate level of utilization of Primary Health Centres for antenatal vaccination among them. There was a moderate positive relationship between their level of utilization and other factors such as age and educational status.

RECOMMENDATIONS

The following recommendations were put forward based on the findings of the study:

1. It should be mandatory for every woman of childbearing age that comes to the Primary Health Centre for Antenatal Clinic to be vaccinated.
2. Pregnant women who come to the primary health centres for antenatal clinic should be properly informed, educated and enlightened on the benefits of vaccination for them and their unborn child.
3. It is important to implement educational activities on the benefits regarding vaccination in order to increase the level of knowledge and utilization of these vaccines and the uptake in pregnant women.

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