IMMUNIZATION COVERAGE IN A SEMI-URBAN HEALTH CENTRE IN NIGERIA.

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ABSTRACT

BACKGROUND

The Azikoro Comprehensive health centre serves as a semi-urban outreach centre to the Niger Delta University Teaching Hospital, Okolobiri, Bayelsa state. This study aimed at reviewing the immunization coverage of attendees at Azikoro Comprehensive health centre with a view to determine the level of coverage, identify gaps and take measures to bridge these gaps.

METHOD

Data were collected from the immunization register in the health centre and applied to the Statistics Package for Social Science (SPSS) software, version 13.0.

RESULTS

A total of 348 babies were surveyed retrospectively using the immunization register; 337 (96.8%) had BCG, 278 (79.9%) had OPV_0, 287 (82.5%) had $OPV_1/DPT_1/HBV_1$, 226 (64.9%) had $OPV_2/DPT_2/HBV_2$, 135 (38.8%) had $OPV_3/DPT_3/HBV_3$ while 140 (40.2%) had measles/yellow fever.

CONCLUSION

The immunization coverage in this study showed a significant low coverage for $OPV_3/DPT_3/HBV_3$, as well as measles/yellow fever vaccine.

Key words: *immunization, coverage, health centre*

BACKGROUND

Childhood immunization has been shown to be one of the most cost-effective health interventions worldwide, through which a number of serious childhood diseases have been successfully prevented or eradicated. Despite this, the implementation of immunization programmes varies greatly across different communities and approximately 34 million children worldwide do not have access to any immunization services [1]. To achieve the full benefits of immunisation, both high coverage and timely delivery of scheduled immunisations are necessary [2]. Delay in receipt of the first vaccine dose in the primary series is one of the strongest predictors of subsequent incomplete immunisation [3].

The infant mortality rate of 105 per 1000 in Nigeria is alarmingly high as in most developing countries, especially when compared with the rate of 6 per 1000 in Sweden [4]. Efforts have been made and are still being made to radically reduce the high infant mortality rate: the child survival strategies comprising growth monitoring, oral rehydration therapy to prevent dehydration from diarrhoeal diseases and promotion of breast feeding attest to these efforts. Others include immunisation, promotion of female education and family planning. Evidently, prevention of infection is of utmost importance in the reduction of child morbidity and mortality rates and these are achievable through immunisation by the use of vaccines against the common childhood diseases coupled with other child survival measures. Childhood immunisation is aimed at the six killer diseases which are vaccine-preventable [4].

In 2005, immunisation coverage was shown to be on the decline [5]. Socio-economic factors, healthcare system factors, and parental attitudes were shown to contribute to incomplete immunisation [6].

Our study aimed to determine the coverage rate for childhood immunisation coverage in a semi-urban health centre, find out possible determinants of coverage rate and underscore the need for more detailed coverage of our immunisation programmes.

METHODS

This was a retrospective study carried out in Azikoro Comprehensive Health Centre located in Azikoro community in Yenagoa Local government area of Bayelsa state, Nigeria, a semi-urban outreach centre which provides health care services to the community and neighbouring communities. The health centre is affiliated to the Niger Delta University Teaching Hospital, Okolobiri, Bayelsa State.

The target population in our survey was made up of childhood (0 12 months) immunisation clinic attendess in the year 2012. All the children aged 0 12 months immunised in the year under review were included in the study. Childhood primary immunisation schedule consists of one dose of bacilliary calmette Guerin (BCG), 4 doses of oral polio vaccine (OPV), three doses of diphtheria, pertusis and tetanus (DPT) and one dose each of hepatitis B virus (HBV), measles and yellow fever.

The status of immunization received was extracted from the immunisation register along with demographic data. Four outcome measures were considered the type vaccine in terms of frequency and gender; completion rate; association between gender and completion, and association between location (nearness to the health facility) and completion. Data collected were entered into a spread sheet using the SPSS 13.0 for Windows® statistical software which was also used for data analysis. Results are presented as percentages, means and standard deviations. Chi square tests were carried out where necessary. Statistical significance was assumed at p values of = 0.05. Approval was obtained from the Ethical Review Board of the Niger Delta University Teaching Hospital.

RESULTS

Three hundred and forty eight infants presented to the health centre for immunisation in the year under review. Of these, 337 (96.8%) had BCG within the first week of birth, 278 (79.9%) had OPV_0, 287 (82.5%) had $OPV_1/DPT_1/HBV_1$, 226 (64.9%) had $OPV_2/DPT_2/HBV_2$, 135 (38.8%) had $OPV_3/DPT_3/HBV_3$ while 140 (40.2%) received measles/yellow fever. The other results and associations are shown in the tables and figures below.

Figure 1: Childhood immunisation: type, frequency and sex.

Legend: blue female, red male, (BCG = Bacilliary Calmette Guerin; OPV = Oral Polio Vaccine; DPT = Diphtheria, tetanus and pertussis; HBV = Hepatitis B Virus) YF yellow fever.

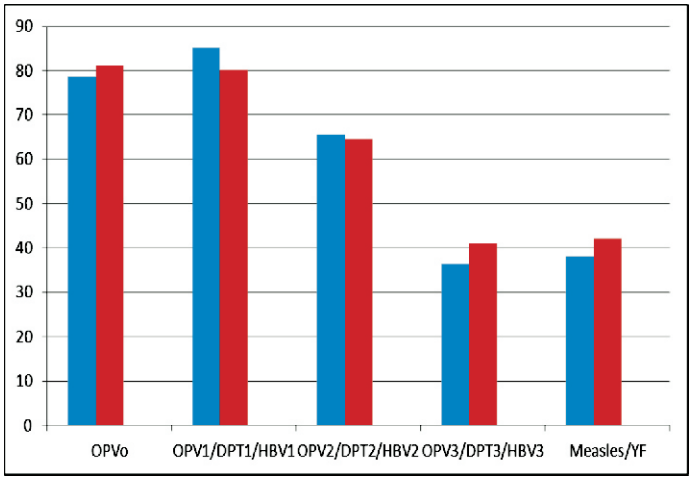

TABLE 1: COMPLETION RATE OF CHILDHOOD IMMUNISATION

Sex	Number	Percentage (%)
Male	24	14.3
Female	44	24.4
Total	68	19.5

TABLE 2: ASSOCIATION BETWEEN NEARNESS TO THE HEALTH FACILITY AND COMPLETION OF IMMUNISATION

Location of client	Number of clients that completed immunisations	Number of clients that did not complete immunisations
Azikoro/Agbura	58	245
Others	10	35

$X^2 = 0.6868; p < 0.05$

TABLE 3: ASSOCIATION BETWEEN SEX AND COMPLETION OF IMMUNISATION

Gender	Completed	Not completed
Male	24	144
Female	44	136

$X^2 = 5.7039; P < 0.05$

DISCUSSION

Almost three quarters of neonatal deaths occur in eight countries, with Nigeria accounting for twenty three percent [7]. The mean percentage coverage for all vaccines in this study was 67.2%. This is higher than that in a rural community in Edo state which was 61.9% [8] and also comparable to that of the Philippines (69%) [9]. A three year study in Korea found coverage rates between 95.9% and 100%. [10]

The mean coverage for this study was very low 21.95%. Although it is higher than that in the teaching hospital (NDUTH) which was 14.3%,[11] it is still very poor when compared with those of other countries. In the 2005 national survey in New Zealand, only 77% of children at 2 years of age had received all scheduled childhood immunisations. Coverage for indigenous (Maori) and Pacific children is lower, despite the NZ Ministry of Health's goal of 95% for all [12].

There was no significant association between nearness to the health facility and coverage rate which is surprising. However, there was a significant association between sex and coverage with the female infants having a higher coverage ($X2 = 5.7039$; $P < 0.05$). In a study in rural China, children's ethnicity and place of delivery, mother's educational status and occupational status, household incomes, as well as mother's utilization of ANC and post-natal visits by health worker, were significantly associated with full immunization [1]. This study also found out that children delivered at health facilities were more likely to be fully vaccinated than children delivered at home. This finding was similar to the study done in Mozambique in which children delivered at home were less likely to complete immunization.[13] The explanation related to this may be that, mothers who give birth at health centers/hospitals are closer to the health service or get more information on immunization, and most of the time the first dose of vaccination is given just after birth. At our study area immunisations are only given on Wednesdays as such many babies could potentially miss their first immunisation.

The limitations of this study include that vital information such as mother demographic data (e.g. educational status) and place of delivery was not indicated in the register i.e. whether at home or in a health facility

CONCLUSION

The immunization coverage in this study showed a significant low coverage for $OPV_3/DPT_3/HBV_3$, as well as measles/yellow fever vaccine.

RECOMMENDATIONS

To improve the immunisation coverage, we recommend as follows:

A more aggressive public enlightenment campaign involving mothers, community leaders and local government staff.

Re-orientation of mothers during ANC towards the benefits of immunisation.

Immunisation register should include baby's place of delivery, ANC attendance, and tribe, mother's educational and occupational status.

Drop outs should be followed up to bring them back to the programme.

Strengthening of the primary Health care system.

Domestication of the child-rights act, making caregivers accountable.

List of Abbreviations

BCG = Bacilliary Calmette Guerin; OPV = Oral Polio Vaccine; DPT = Diphtheria, tetanus and pertussis; HBV = Hepatitis B Virus

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