
Insufficient Social Mobilization as a Correlate of Poor Childhood Immunization Coverage and Strategies for Improvement in Bayelsa State**Akpe, Anthony Bibowei ⁽¹⁾ & Achalu, E. I. ⁽²⁾****Department of Community Health Science, School of Public Health Sciences
Bayelsa State College of Health Technology, Otuogidi- Ogbia Town ⁽¹⁾ Department of Human
Kinetics and Health Education University of Port Harcourt, Port Harcourt, Nigeria ⁽²⁾**Email: Anthony_bibowei@yahoo.com ⁽¹⁾

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Abstract

The study examines insufficient social mobilization as a correlate of persistently low vaccination coverage and develops an improvement package tailored to mothers. The study was a cross-sectional survey. All mothers who had lived in Bayelsa State for a minimum of six months and had a child or children between the ages of 0 and 5 as well as medical and health practitioners from the Bayelsa State Ministry of Health, Primary Health Care Board and Local Government Councils formed the study population. Two validated questionnaires were used as instruments for data collection. The instruments' internal consistency was determined using Cronbach's Alpha statistics and resulted in a reliability of 0.83 and 0.86 for the instruments respectively. Data collected was analysed using mean, standard deviation and simple regression. Insufficient social mobilization was found to be a significant determinant of poor childhood immunization to an averagely high degree and the proposed strategies have been determined to be appropriate for increasing childhood vaccination coverage in Bayelsa State. It is recommended that a feedback mechanism be implemented to ensure that messages are delivered to the intended recipient. The Primary Health Care Development Board should implement the strategies recommended in this study to increase immunization coverage.

Introduction

Immunization is the process of developing resistance to infectious disease through the administration of an attenuated vaccine that stimulates the production of antibodies against the disease antigen. It provides protection against these diseases and aids in the development of an individual's immune system, which may be passive or active. WHO and UNICEF have rated Bayelsa's vaccination coverage as inadequate across all rounds of routine vaccination and campaigns, and the state is experiencing a high rate of morbidity and mortality due to vaccine-preventable diseases. There are factors unique to Bayelsa's immunization programs that contribute to or cause this low coverage. Routine immunization activities are primarily conducted in health care facilities, and as such, a functional facility is a critical precondition for achieving effective vaccination coverage. A zone with an adequate filter of health care facilities fosters an environment conducive to

increased vaccination coverage, particularly in model facilities with diverse specialties (Tagbo et al., 2014). Because the structural framework of a hospital, clinic, or health care center is dedicated to health care activities, living in an area with a functional health care center that also provides other health care services increases the likelihood of having an improved immunization outcome.

The presence of Antenatal Care (ANC) services was found to be a factor in immunization, with children born in a health care facility being more likely to have complete immunization, at 90%, than those born at home; thus, the place of delivery is a factor in determining a child's immunization status. Individuals who give birth in a health facility are exposed to immunization information and may receive their first vaccination prior to being discharged home (Meleko et al., 2017). Furthermore, adequate education about the availability, importance, and safety of vaccines will go a long way toward dispelling certain myths about vaccination services that have hampered people's acceptance of immunization services. Increased vaccination coverage has been observed when caregivers and the relevant target population are sensitized and mobilized. This is critical in ensuring that people understand the importance of vaccinating their children against Vaccine Preventable Diseases. Educating mothers/caregivers about routine immunization schedules enables them to bring their children to receive the appropriate vaccine at the appropriate time and age. When caregivers lack the necessary knowledge or information about vaccination activities, they are unable to adhere to the schedule (Tagbo et al., 2014). This point was reinforced by a study conducted by Konwea et al. (2018), which found that mothers who have adequate knowledge about vaccine-preventable diseases and immunization have children who complete their vaccinations at a higher rate, and vice versa.

To maintain vaccine potency and achieve immunity against a variety of vaccine-preventable diseases, a functional cold chain system is required. In underdeveloped countries, a lack of cold chain equipment and facilities, such as a lack of electricity or faulty freezers/refrigerators, has been found to contribute to low vaccination coverage (Tagbo et al., 2014). Vaccine shortages have been identified as a significant impediment to meeting the national vaccination target rate. This is because when health facilities run out of vaccines, particularly on immunization days, and caregivers return home without having had their children immunized, this may discourage caregivers from returning for immunization. The absence of health infrastructures has also been identified as a factor mitigating the improvement of immunization activities; thus hindering caregivers and mothers from having access to immunize their children against Vaccine Preventable Diseases in such area (Tagbo et al., 2014). On this note, it is critical for health personnel responsible for immunization services to plan adequately for vaccination days, excluding factors such as insufficient ordering and storage facilities, which result in vaccines being out-of-stock (Favin et al., 2012). According to Oku, Ita, and Simon (2017), respondents at the state and local levels highlighted the lack of basic resources necessary to conduct an effective and extensive community mobilization for vaccination. They reported lack of adequately equipped offices, computers, vehicles, motorcycles, or other modes of transport, public address systems for announcements, as well as flyers, leaflets, and posters. All of these were not provided, resulting in low vaccination coverage.

According to Azini and Probst (2017), strong and efficient supply chains equipped with reliable cold chain equipment are critical for reaching children with lifesaving vaccines that protect against deadly diseases such as polio, measles, tetanus, and hepatitis B. To accomplish this, each

country's vaccination program must have access to reliable and well-maintained cold chain equipment, such as refrigerators and cold boxes. According to Ophori et al. (2014), state-level cold stores were underequipped and poorly managed, with more than half of refrigeration equipment being broken or worn out. They reported that only one of three cold rooms in a particular zonal store was operational, with only one compressor operational. According to Barman and Dutta (2013), the quality of immunization coverage is dependent on the availability of human resources, equipment, supporting drugs, and personnel training. Additionally, Lafond et al. (2015) stated that model immunization coverage is informed by human resources, cold chain equipment, vaccine supply, and transportation resources.

The study was hinged on the PRECEDE – PROCEED model which was propounded by Lawrence W. Green in 1974 to help health programme planners look at the outcomes and effectiveness of intervention made during implementation of programmes. The study investigated the determinants of childhood immunization coverage among women in Bayelsa State and developed improvement strategies that will be able to curb this reduction when applied and put into use.

Statement of the Problem

Child mortality has been increasing in Nigeria, and the majority of these deaths are preventable diseases that can be prevented with appropriately administered vaccines. These diseases are preventable and will result in a reduction in mortality if vaccination coverage is increased. Global vaccination coverage is estimated to be 85 percent, and vaccines are being used inefficiently on a global scale. According to the United Nations International Children's Emergency Fund [UNICEF] (2018), one in every eight children in Nigeria dies before reaching the age of five, and 10.5 million children have stunted growth. In 2016, maternal mortality was reported to be 546 per 100,000 live births, while neonatal mortality was reported to be 39 per 1000 live births. Despite the round of vaccination and routine immunization in health facilities, the polio virus was still reportedly present in Nigeria as of 2017 and only one-quarter of all Nigerian children were immunized as recommended in their first year. It has been repeatedly reported that immunization coverage is low or non-existent in Bayelsa State, to the extent that all Niger Delta states with a similar topography and culture to Bayelsa State are excluded from being classified as highrisk states, with the exception of Bayelsa, which has been declared a state of emergency and designated as such on the Routine Immunization Coordination Center (SERICC). Thus, the study examines insufficient social mobilization as a correlate of low vaccination coverage and develops an improvement package tailored to mothers in order to increase vaccination coverage and thus reduce childhood mortality in the State.

In specific terms, the objectives are as follows:

1. To determine if insufficient social mobilization is a correlate of poor childhood immunization coverage in Bayelsa State.
2. To ascertain suitable strategies to improve poor childhood immunization coverage in Bayelsa State.

Research Questions

The following research questions guided this study;

1. To what extent is insufficient social mobilization a correlate of poor childhood immunization coverage in Bayelsa State?
2. What are the suitable strategies to improve social mobilization for adequate childhood immunization coverage in Bayelsa State?

Hypotheses

The following hypotheses were formulated and were tested at 0.05 alpha level.

1. Insufficient social mobilization is not a significant correlate of poor childhood immunization coverage in Bayelsa State.

Methods

The cross-sectional survey was adopted for the study. The study population is composed of women in Bayelsa State who had child/children between the ages of 0 and 5 years and medical and health practitioners from the Bayelsa State Ministry of Health, Primary Health Care Board and Local Government Councils. To qualify for inclusion in the study, the mothers would have lived in Bayelsa State for a minimum of six months. A multistage sampling procedure was used, beginning with the cluster sampling technique to identify Bayelsa State's three (3) senatorial districts, which are comprised of eight Local Government Areas and 105 political wards. A simple random selection technique was used to choose 50% of the wards in each Local Government Area, resulting in a total of 55 wards. Fifty (50) percent of the communities within each of the selected wards were also randomly selected, resulting in a total of 53 communities; from each of the 53 communities, 20 women with at least one child under the age of five were conveniently selected to participate in the study, resulting in a total of 1100 women. Also 20 medical and health practitioners from the Bayelsa State Ministry of Health, Primary Health Care Board and Local Government Councils were conveniently selected to be part of the study. This gave a total of 1120 respondents.

The instrument used to collect data for this study was titled "Determinants of Childhood Immunization Coverage Questionnaire (DCICQ)," and it included a polychotomous response option based on a modified four-point Likert scale with Very High Extent (VHE) scored 4, High Extent (HE) scored 3, Low Extent (LE) scored 2, and Very Low Extent (VLE) scored 1. The second instrument was also a questionnaire titled "Improvement Strategies for Childhood Immunization Coverage Questionnaire (ISCICQ)" structured to elicit responses on social mobilization based improvement strategies for childhood immunization coverage in Bayelsa State and was also structured based on a modified 4 points Likert scale using the options, Very Inappropriate (VI) weighted 1, inappropriate (I) weighted 2, Appropriate (A) weighted 3 and Very Appropriate (VA), weighted 4. ISCICQ was responded to by experts in the field of immunization in Bayelsa State while DCICQ was completed by women who had at least one child aged 0–5 years and have lived in

Bayelsa for at least six years. The instrument's internal consistency was determined using Cronbach's Alpha statistics and resulted in a reliability of 0.77. Although 1100 women responded to the items, 1078 were fully filled and retrieved, resulting in a 98 percent return rate. Mean, standard deviation and simple regression statistics were used to analyze the answer the research questions and test the hypothesis at 0.05 level of significance. A criterion mean of 2.5 was applied in taking decision on the extent of relationship between social mobilization and poor childhood immunization coverage. Mean of 2.5 and above was regarded as high extent while mean below 2.5 was regarded as low extent. The same interpretation criteria was applied to the decision on the appropriateness of the suggested improvement strategies. Mean of 2.5 and above was regarded as appropriate while mean of below 2.5 was regarded as not appropriate.

Results

Research Question 1: To what extent is insufficient social mobilization a correlate of poor childhood immunization coverage in Bayelsa State?

Table 1: Mean and standard deviation analysis on extent to which insufficient social mobilization is a correlate of poor childhood immunization coverage in Bayelsa State

S/N	Items	RESPONSE				Mean ($\bar{x}$)	Std Dev.	Decision
		VHE	HE	LE	VLE			
		N = 1078						
1.	Mothers receive regular information on immunization activities before immunization days	218	271	365	224	2.45	1.03	Low
2.	Mothers are sensitized on immunization attendance	289	295	215	279	2.55	1.14	High
3.	Health workers always remind mothers of child’s next visits	313	275	222	268	2.59	1.15	High
4.	Community passes information on immunization prior to the immunization day	278	273	281	246	2.54	1.11	High
5	Sensitizations on the benefits of child immunization are done in your area	368	266	243	201	2.74	1.12	High
Grand Mean						2.57	1.11	High

Table 1 revealed that mothers do not receive regular information on immunization activities before immunization days as illustrated in the mean of 2.45. On the contrary, mothers are sensitized on immunization attendance; health workers always remind mothers of child's next visits; community passes information on immunization prior to the immunization day and sensitizations on the benefits of child immunization are done in your area as shown by their mean that is greater than 2.50. The grand mean of 2.57, indicate an averagely high extent of lack of social mobilization as a determinant of poor childhood immunization coverage in Bayelsa State.

Research Question 2: What are the suitable strategies to improve social mobilization for adequate childhood immunization coverage in Bayelsa State?

Table 2: Weighted Mean Derived from Improvement Strategies of Poor Childhood Immunization Coverage Questionnaire (ISPCICQ)

S/N	ITEM	Total	Total Weighted	Weighted mean	DECISION
LACK OF SOCIAL MOBILIZATION					
1.	Advocacy visit to influential persons of the community Sensitizing mothers on the importance and need for immunizing their children through seminars, campaigns, rallies with posters, hand bills etc.	20	56	2.8	Appropriate
2.	Distribution of immunization leaflets and posters telling the benefits of immunization	20	65	3.25	Appropriate
3.	Placing posters, bill boards or banners on strategic areas in order to sensitize and remind mothers of immunization activities	20	56	2.8	Appropriate
4.	Training of town announcers	20	56	2.8	Appropriate
5.	Introducing and training female town announcers for the purpose of immunization attendance	20	60	3	Appropriate
6.		20	76	3.8	Appropriate

Table 2 shows that the weighted mean of 2.8 is above the criterion mean of 2.5, hence the decision on item 1 (advocacy visit to influential community members) is appropriate to reduce problems of social mobilization as a factor hindering immunization programmes and services in Bayelsa state. Items 2 to 6: sensitizing mothers on the importance and need for immunizing their children through seminars; campaigns, rallies with posters, hand bills etc.; distribution of immunization leaflets and posters telling the benefits of immunization; placing posters, bill boards or banners on strategic areas in order to sensitize and remind mothers of immunization activities; training of town announcers; and introducing and training female town announcers for the purpose of immunization attendance were all above the criterion mean of 2.5. They are therefore adjudged to be appropriate to reduce or curb the problem of insufficient social mobilization to improve childhood immunization coverage.

Hypothesis 1: There is no significant relationship between Lack of social mobilization and childhood immunization coverage in Bayelsa State.

Table 3: Simple regression summary of relationship between Lack of Social Mobilization and childhood immunization coverage in Bayelsa State

	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.764	.043		86.640	.000
	SOCIAL MOBILISATION	-.262	.017	-.436	-15.893	.000

a. Dependent Variable: CHILD IMMUNIZATION COVERAGE $Y = 3.764 + (-0.262)$

Table 4.19 show that the standardized beta coefficient is -0.436 (it indicates a negative prediction of -43.6% of child immunization coverage). The regression equation on the table indicates that lack of social mobilization had negative contribution of -0.436 unit per child immunization coverage. The t-statistical value of 15.893 associated with simple regression is significant at 0.000 when subjected to the alpha level of significance of 0.05. This reveals that lack of social mobilization is a significant determinant of childhood immunization coverage in Bayelsa State.

Discussion of the Findings

The study revealed that insufficient social mobilization was to high extent a correlate of poor childhood immunization in Bayelsa state. The result showed that mothers were not well sensitized on immunization attendance, health workers did not remind mothers of their next appointment, and the community did not pass information on immunization prior to immunization. This finding is worrisome because insufficient social mobilization will deprive mothers of relevant information concerning immunization and immunization schedules. This finding is in consonance with that made by Abdulraheem et al. (2011), who found that inadequate maternal knowledge about immunization contributed to low vaccination rates. The need for adequate sensitization through various social marketing cannot be overemphasized since knowledge they say is power. More so, the mothers can only act rightly in complying to immunization schedules if they are equipped with adequate information on the benefits of immunization, the venues and schedules for immunization as well as other relevant information necessary for them to comply.

The research question, which sought to identify appropriate strategies for increasing childhood vaccination coverage, revealed that the suggested strategies were suitable for increasing childhood vaccination coverage. Advocacy visits to influential persons in the community will ensure that their support in kind and cash is secured. They can play important roles in making logistics available for dissemination of information. The use of female announcers is an innovation that will see mothers been reached through their peers. Peer education has been proven to be effective in promoting positive knowledge, attitudes and healthy behaviours.

Conclusion

Based on the findings of the study it is concluded that insufficient social mobilization to a high degree is a significant correlate of poor childhood immunization coverage. To promote adequate childhood immunization coverage, the proposed strategies have been found to be appropriate worth trying in Bayelsa state and other states in the country experiencing poor childhood immunization coverage.

Recommendations

1. Methods of communicating immunization activities or programs to communities must be backed up by reaffirmation of message receipt.

2. It is recommended that a feedback mechanism be implemented to ensure that messages are delivered to the intended recipient. The Primary Health Care Development Board should not be afraid to educate mothers about vaccines/immunization through various mediums such as television, radio, and posters.
3. During visits to health facilities, health education and health talks about the safety of vaccines and the importance of immunization should be conducted consistently, and mothers should always be reminded of their children's next appointment date.
4. Increased immunization education sessions during mothers' visits to health facilities, particularly during antenatal care.
5. The Primary Health Care Development Board should implement the strategies recommended in this study to increase immunization coverage.

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