CHILDHOOD IMMUNIZATION AND BROADCAST PROGRAMMES IN JOS NORTH LOCAL GOVERNMENT AREA OF PLATEAU STATE

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ABSTRACT

Background: *Immunization has been found to be a vital component in childhood survival strategy. Broadcast programme that disseminate the information are not usually reviewed in Nigeria. This study aimed to analyse childhood immunization and broadcast programmes in Jos North Local Government Area of Plateau state.*

Methods: *A descriptive cross-sectional study and content analysis were done. . Four hundred mothers of children less than five years were studied. Development Media Theory and Communication for Persuasion Theory was adopted. Mother's selection was through multistage sampling technique. All the broadcast programmes on immunization in PRTVC within a period of eight months (January to August 2014) were analysed for content. Data generated for survey was entered and analysed using Statistical Package for Social Science (SPSS) version 16.0 software.*

Result: *Majority of the women (54.2%) were between 25-34 years. Radio/television was the main source of awareness of 295(74%). Among those who were aware of immunization through broadcast (radio/television) programme, 99.5% participated in childhood immunization compared to 75% among those who were not aware through broadcast programmes p=<0.001. Also, among those who were aware through broadcast, 91.8% fully immunized their children while only 60.0% fully immunized their children among those who were not aware through broadcast p=<0.001. On radio and television announcement accounted for 61% and 60% respectively.*

Conclusion: *Broadcast programmes on childhood immunization should be in every quarterly scheduled programming of broadcast stations and not only when there is a flag up campaign. This will keep mothers abreast of the importance of immunization and educate new mothers on the need to immunize their children.*

Keywords: *Immunization, Broadcast Programmes, Childhood and Awareness*

Introduction

Immunization has been found to be a vital component in childhood survival strategy. Childhood vaccine-preventable disease immunisation is a universal intervention, aiming for 100% coverage of the population. The benefits of immunization for childhood vaccine-preventable diseases extend from the individual to the family and the whole-population in general[1]. Immunisation success relies on its acceptance and high coverage. However, infection, immunology, vaccination, and public health are intrinsically complex. The result of this complexity is that, in the past, the acceptance of immunization relied heavily on a combination of habit, public health paternalism and legislation[2]. Today's health consumers are accepting less of blind faith and trust, and demanding for more clarity of why they should immunize their children. This is because of the uncertainty arising from the vaccine debate which is seen as an opportunity to bring attention to other unrelated causes such as autism and multiple sclerosis[3]. Groups that believe in such can be highly organized and vocal in their efforts to persuade parents that vaccines are unsafe and not needed.

Broadcast programme can help mobilize the population, inform, clear doubt and rapidly increase immunization coverage. **Broadcasting (Radio and Television)** is the primary means by which information and entertainment are delivered to the public in virtually every nation around the world. The term *broadcasting* refers to the air-borne transmission of electromagnetic audio signals (radio) or audiovisual signals (television) that are readily accessible to a wide population via standard receivers[7]. It is the transmission of radio and television signals to a mass audience through electric rays[8].

Broadcasting is a crucial instrument of social, economic and political organizations. At its peak of influence in the mid-20th century, national leaders often use radio and television broadcasting to address the entire countries in the world (Omenugha & Oji, 2013). Exposure to information on television and radio can increase people's knowledge and awareness of new ideas, social changes, and opportunities as well as affect their perceptions and behaviour including those related to health[9].

At the end of December 2011, Plateau state had an average immunization coverage rate of 62%: which fell below the 95% target set by the Federal Ministry of Health as the National target for the year [1]. Reasons for this low coverage in the state majorly include: incessant strikes by the local government health workers, the numerous communal crises that occurred within the state, refusal of immunization by religious sects and poor awareness about the role of immunization in preventing diseases [1a].

Immunization hesitancy, have had a negative impact on vaccination uptake. This has resulted in some resurgence of vaccine preventable diseases, and the occurrence of clustered outbreaks such as measles and polio in children under-five[1] (Cairns et. al, 2006). This has been largely attributed to low level of awareness among populace and misconceptions about immunization[9]. The recent drop in immunization coverage in Nigeria from 74% in 2010 to 52% in 2012 has left more than 3.2 million children at the age of 12 months unimmunized adding to the existing large pool of susceptible under-fives, which could lead to outbreaks of vaccine-preventable disease across the country. **(NPHCD, 2014)**. There is a need to know how the broadcast programme contribute childhood immunization. This study therefore aimed at determining the contribution of broadcast programme to childhood immunization.

Theoretical framework

This study adopts the *Communication for Persuasion Theory and* Development Media theory.

Communication for Persuasion Theory

This theory was developed by social psychologist William McGuire and focuses on how people process information. The communication-persuasion theory[11] (McGuire 1976, 2001) is different from other theoretical models in the health field, and its uses are predominately found in the field of advertising McGuire (2001) highlighted twelve interdependable steps in the process of persuasive communications[11]. He suggested that in order to assimilate and perform a new behaviour, a person should:

- Be exposed to the message.
- Pay attention to it.
- Find it interesting or personally relevant.
- Understand it.
- Figure out how the new behaviour could fit in his or her life.
- Accept the change that is being proposed.
- Remember and validate the message.
- Be able to think of the message in relevant contexts or situations.
- Make decisions on the basis of the retrieved information or message.
- Behave in line with that decision.
- Receive positive reinforcement for that behaviour.
- Integrate the new behaviour into his or her life.

This model also suggests that these twelve steps are interdependent. Achieving any of them is strictly contingent on success at all prior steps. McGuire's steps for persuasion can provide a valid framework for broadcast programmes in disseminating information on the importance of childhood immunization to mothers of children of under five years of age by packaging programmes in an interesting and persuasive way and figuring out how it could fit in the audience way of life. The programmes will also use languages understood by the people to communicate information about the importance of childhood immunization. The kind of programmes which will be able to make the mothers of children under five years of age think of the message in relevant contexts or situations can be package and communicated in other for them to

make decisions on the basis of the retrieved information and behave in line with that decision.

The communication–persuasion model has guided *public health* communication particularly in using mass media[7]. This model has been used in a variety of ways. These include the examination of consumer behaviour in response to messages. Kaphingst used McGuire's communication of persuasion to help analyse direct-to-consumer television prescription drug adverts[8].

Alcalay and Bell cited in Corcoran (2007) propose that one advantage of this module is that *evaluation* has to be included in the communication strategy as it is built into the model. "The model can also help practitioners to identify and consider channels and strategies that can influence the campaign outcomes. Given the emphasis on each stage, each message stage can be examined for impact, appropriateness and effectiveness.

Hahman in Corcoran (2007) suggest that as the audience processes a message, a percentage of this audience are lost at each step. Therefore for this model to be effective high exposure, and high awareness levels are essential."

Development Media Theory

The development media theory was propounded by Denis McQuail in 1987.[10] The theory was born out of the UNESCO MacBride Commission set up in 1979. The theory focused on the role of media in partnership with the government to promote development. The underlying fact behind the genesis of this theory was that there can be no development without communication. The media undertook the role of carrying out positive developmental programmes receiving instruction from the government. Raza (2012) observes that the media subordinated themselves to political, economic, social and cultural needs. Hence, the stress on development communication and development journalism."

Asemah (2001) holds that the media have a role to play in facilitating the process of development in developing countries.[11] He explained that:

The media are seen as agents of development and social change in any community thus, the theory says that the media should be used to complement government's efforts by carrying out programmes that will lead to positive behavioural change among people.

The assumptions of the theory indicated by McQuail cited in Anaeto, Anabajo and Osifeso (2008:63)[12] postulates that:

- The media must accept and carry out development tasks in line with national established policy.
- Freedom of the media should be open to economic priorities and development needs of the society.
- The media should give priority in their news and information that link with other developing countries, which are close geographically, culturally or politically.
- Journalist and other media workers have responsibilities as well as freedom in their information gathering and dissemination tasks.
- In the interest of development ends, the state has a right to intervene in, or restrict media operation and devices and direct control can be justified.

Scholars seem not to agree with the last assumption. They argue that it goes against the working of press freedom and makes developmental idea not meaningful. Folarin[13] explains that the development media theory has already provided bearing for the concepts of development communication and development journalism. He concluded that "nothing in the origin, basis and principle of the development media theory should be interpreted as shielding media and journalists from social responsibility or ousting the concept of press freedom.

The media can assist in promoting National Immunization Policy (NIP) through childhood immunization broadcast programme in order to prevent resurgence. When the media support in advocating for participation in the immunization programme, they will be supporting government in social development and aiding society at large, putting into cognisant the culture and languages of the nation.

Methods

Study area

Design

This is a descriptive cross-sectional research that made use of survey method and content analysis. Survey was carried out to know the level of awareness of childhood immunization through broadcast programmes and to assess the level of participation of mothers of children less than five

years in childhood immunization. Also broadcast programmes of Plateau Radio Television Corporation (PRTVC), Jos, on immunization were evaluated to identify the kind of programmes that were transmitted to increase mother's participation in childhood immunization. The choice of this station was on the basis of it being an indigenous station that transmits both radio and television programmes with wider coverage and adaptability of programmes in local dialect.

Population for the study

The population of study is a target group which the researcher is interested in studying. For the survey study, the research population comprised of all mothers of children under five years of age living in Jos north LGA of Plateau state.

Content analysis focused on all episodes of broadcast programmes available in radio and television on immunization aired between January and August, 2014.

Sample size

The estimated sample size was determined by using the formula for descriptive study. To give allowance for incomplete response, 5% of the calculated sample size was added to round up the sample size to 400. Hence a sample size of 400 was used.

Content Analysis: All the broadcast programmes on immunization in PRTVC within a period of eight months (January to August 2014) were analysed.

Sampling Technique: Selection of subjects was done using multistage sampling technique. This was done in three stages. In each of the household, only one mother of children under five years of age was eligible (i.e when more than one mother of children of under five years of age was found in a household, only one mother was selected through balloting and when there was no eligible respondent in a household, the next contiguous household was selected).

Content Analysis: All broadcast programmes on immunisation available between the period of January and August 2014 were used.

Survey method: The researcher and the trained research assistants administered the questionnaires to the mothers of children under five years of age and conducted the interview.

Content Analysis: Coding sheets was used to place the contents into categories. This helped in examining the frequency of the various items to be analysed.

Data analysis

Survey Method: The data collected for survey method through questionnaires was documented according to the respondent responses to the questionnaire. Data generated was collated and analysed using Statistical Package for Social Science (SPSS) version 16.0 software. These were presented in tables and charts. Descriptive statistics were done while chi-square test was used to determine association between categorical variables.

Content Analysis: A descriptive statistic using percentages was used to analyse the data presented in a table.

Results

The first category of analysis included the data elicited from mothers of children of under five years of age. Of the 400 questionnaires administered, only 395 copies were retrieved, five was left out due to incomplete response implying that the analysis is based on the response of 395 mothers. Most of the respondents were within the age group of 25-34 years, (54.2%), largely Christians (71.9%) and married (90.4%). Fifty five percent of the respondent had obtained a secondary education and a little less than 37% were unemployed. About 59% had only one under-five child.

Table 1: Socio-demographic Characteristics of Respondents

Characteristic	Frequency N=395	Percent
Age		
<15 years	3	0.8
15-24 years	108	27.3
25-34 years	214	54.2
35-44 years	68	17.2
45 years and above	2	0.5
Religion		
Christianity	284	71.9
Islam	109	27.6
Other	2	0.5
Marital Status		
Single	27	6.8
Married	357	90.4
Divorced	4	1.0
Widowed	4	1.0
Unspecified	3	0.8

Level of education		
No formal education	22	5.6
Primary	39	9.9
Secondary	216	54.7
Tertiary other than university	76	19.2
University	38	9.6
Others	4	1.0
Occupation		
Unemployed	145	36.7
Unskilled worker	45	11.4
skilled worker	69	17.5
Professional	58	14.7
Business	78	19.7
Number of children under 5 years		
1	233	59.0
2	102	25.8
3	29	7.3
5	18	4.6
No Response	13	3.3

Table 2: Respondents sources of awareness of childhood Immunization

Source of awareness of childhood immunization	Frequency N=395	Percent
Radio/television		
Yes	295	74.7
No	100	25.3
Print media		
Yes	19	4.8
No	376	95.2
Billboard		
Yes	13	3.3
No	382	96.7
Friend/family/neighbour		
Yes	189	47.8
No	206	52.2
Church/mosque		
Yes	14	3.5
No	381	96.5
Antenatal Clinic		
Yes	345	87.3
No	50	12.7
Other Means		
Yes	20	5.1
No	375	94.9

Ever aware of a broadcast programme (radio/television) on immunization was in 367(93%)

The programmes were in the form of announcements 184(50.1%), news and current affairs 124(33.8%), advertisements 28(7.6%), jingles 25 (6.8%), drama 5(1.4%) and music1 (0.3%).

Table 3: Participation in childhood immunization, Child full immunization and awareness of childhood immunization through broadcast programmes (radio/television)

	Awareness of immunization through broadcast programme		X^2	p value
	Yes	No		
Participation in childhood immunization				
Yes	365(99.5%)	21(75.0%)	69.676	0.000
No	2(0.5%)	7(25.0%)		
Total	367(100%)	28(100%)		
Child fully immunized				
Yes	236(91.8%)	6(60.0%)	10.063	0.001
No	21(8.2%)	4(40.0%)		
Total	257(100%)	10(100%)		

Table 3 shows that among those who were aware of immunization through broadcast (radio/television) programme 365(99.5%) participated in childhood immunization compared to 21(75%) among those who were not aware through broadcast p=<0.001 There is a significant association between awareness of immunization through broadcast programme (radio/television) and fully immunizing children. Among those who were aware through broadcast 236(91.8%) fully immunized their children while only 6(60.0%) fully immunized their children among those who were not aware through broadcast p=<0.001.

The content analysis took in account the units of analysis such as drama, music, jingles, news &current affairs, advertisement and announcements. The analysis of the content therefore adopted the narrative and descriptive statistical format centred on percentage. Table 4 shows immunization programmes in both radio and television, January – August, 2014. Content of PRTVC shows that only 107 immunization programmes were aired, between January and August 2014. In all, announcement was the most aired programme with 65(61%), followed by news and current affairs with 49(46%). The least aired programme is jingle with 3 while drama, music and advertisement had none. In summary, there were 72% radio programmes and 28% television programmes aired within the stated period.

Table 4: Immunization programmes in both radio and television, January – August, 2014

Codes	Month in 2014	Immunization programme in radio and television
M1	January	0
M2	February	0
M3	March	37
M4	April	20
M5	May	0
M6	June	17
M7	July	0
M8	August	33
Total		**107**

Table 5: Unit analysis of radio programmes

Unit of analysis	M1	M2	M3	M4	M5	M6	M7	M8	Total	%
Drama	-	-	-	-	-	-	-	-	0	0
Music	-	-	-	-	-	-	-	-	0	0
Jingles	-	-	3	-	-	-	-	-	3	4
News & current affairs	-	-	3	8	-	3	-	6	27	35
Advertisement	-	-	-	-	-	-	-	-	0	0
Announcement	-	-	29	12	-	6	-	9	47	61
Total	0	0	35	20	0	13	0	15	77	100

Table 5 shows the frequency of broadcast programmes on radio by PRTV within the researching period. As convey by the table, announcement which is in both Hausa and English languages, was the most broadcast than any of the units, as it accounted for 77(61%) with a total of 18 broadcasts. News and current affairs which feature medical professionals and personality informing and discussing the importance of childhood immunization by showing how people are immunizing their children of under five years of age also recorded 35% while jingles followed, with 4%. On the other hand, there were no programmes on drama, music, and advertisement on radio to create awareness on childhood immunization in PRTVC during the period reviewed.

Table 6: Units Analysis for television programmes

Unit of analysis	M1	M2	M3	M4	M5	M6	M7	M8	Total	%
Drama	-	-	-	-	-	-	-	-	0	0
Music	-	-	-	-	-	-	-	-	0	0
Jingles	-	-	-	-	-	-	-	-	0	0
News & current affairs	-	-	-	-	-	-	-	12	12	40
Advertisement	-	-	-	-	-	-	-	-	0	0
Announcement	-	-	6	4	-	4	-	4	18	60
Total	-	-	6	4	-	4	-	16	30	100

Table 6 shows that within the research period, television had more announcement programmes broadcast as it accounted for 18(60%). News and current affairs which feature medical professionals and personality informing and discussing the importance of childhood immunization by showing how people are immunizing their children of under five years of age also recorded 12(40%). On the other hand, there were no programmes on drama, music, jingles and advertisement on television to create awareness on childhood immunization in PRTVC as all these units have zero percent.

Discussion

The study assessed the level of awareness of childhood immunization through broadcast programmes. Respondents' access to television and radio could have increased their awareness to childhood immunization (National Population Commission, 2013). The result showed that the level of awareness through radio/television is higher in the study areas. This could be as a result of programmes broadcast in native languages understood by mothers. About 74% of mothers became aware of childhood immunization through television /radio, 68% through antenatal clinic and 3% through Bill board. There is a wide gap between awareness through radio/television and other sources such as: Print, bill board and interpersonal communication. There is also a slight difference in sources of awareness according to ward, educational level and occupation. Findings reveal that across the wards selected in Jos north LGA, mothers who reside in Mado community of Fodunwada ward, were the most likely ones to become aware of childhood immunization through television/radio and antenatal clinic at same time. This may be attributed to the more urban nature of the area.

With respect to the kind of programmes through which the respondents became aware of childhood immunization, announcements was reported as the major source of awareness amongst news, current affairs, drama, music, jingles and advertisement. Findings in content analysis also indicate that announcements, which were broadcast in both Hausa and English through radio and television, recorded the highest frequency. These announcements are mostly sponsored by the state ministry of health, traditional rulers and Local Government Council during flag up campaign for routine immunization.

The significant association between awareness of immunization through broadcast programme (radio/television) and participation shows the importance of broadcast programmes in improving awareness and invariably participation of mothers in immunizing their children that are under five years of age. A study in Pakistan showed that awareness improved immunization and reduced missed immunization episodes in a rural community.[7]

The awareness of the respondents was mostly from broadcast programmes (radio/television). The more their access to broadcast programmes on immunization the more their level of awareness. The media is an important ally in any public health situation. It serves the role of being a source of correct information as well as an advocate for correct health behaviours.[1]

Content analysis showed only announcement and News and current affairs programmes on childhood immunization. These programmes are aired only when routine immunization campaign flags up. The role of State ministry of health, traditional rulers and LGA council in sponsoring some of these programmes cannot be over look. The acceptance of announcement can be facilitated when it is disseminated through broadcast (radio/television) and credible personalities. Findings answered the question of the kind of broadcast programmes packaged and aimed for effective childhood immunization. Type of programmes can determine audience exposure and retention.

Mothers who participated in child immunization got the awareness from broadcast programmes. All programmes disseminated carried content relevant to childhood immunization. They educate them on all the immunization a child is expected to take at a particular age and mothers' fears were addressed. Places to get the vaccines were also mentioned. Professionals, religious leaders and Traditional rulers gave confidence to mothers in the vaccine through News and current affairs discussion programmes. Immunization programmes were also in Hausa language for easy understanding by uneducated mothers. This shows that broadcast programmes has the potentials to create awareness for participation. This can lead to dependency relationship between broadcast programmes on immunization and participation in childhood immunization.

Conclusion

Announcement programmes on childhood immunization has the highest percentage content recorded. Broadcast programmes on childhood immunization were significantly associated to level of awareness and level of participation of mothers of children under five years of age.

Recommendations

Broadcast programmes on childhood immunization should be in every quarterly scheduled programming of broadcast stations and not only when there is a flag up campaign. This will keep mothers abreast of the importance of immunization and educate new mothers on the need to immunize their children.

The use of broadcast programmes should be expanded by including other forms of broadcast programmes such as drama, jingles and music in PRTVC in creating awareness for effective childhood immunization.

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