Global Journal of Arts Humanities and Social Sciences
Vol.2,No.7,pp.7-17, September 2014
Published by European Centre for Research Training and Development UK (www.eajournals.org)

COMMUNICATION FACTORS THAT INFLUENCE MOTHERS DECISION TO COMPLETE CHILHOOD IMMUNIZATION IN RURAL NIGERIA

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ABSTRACT: *This study was conducted to determine the most effective communication strategies for enhancing immunization uptake and coverage among women in rural Nigeria. Sixty three (63) women with immunizable children in Maternal and Child Health Centres in Bida,Lapai and Agaie Local Government Areas of Niger State, Nigeria were enlisted in a quasi-experimental study consisting of 2 groups of women, an experimental group and a control group. In the experimental group, intervention includes orientation and training of clinic staff to be mother friendly, have shorter clinic procedures, give health talks on immunization to mothers at the clinic, ensure oral commitment by mothers at the exit point to return for the next visit, distribute printed educational and instructional materials to mothers to remind them of their subsequent visits to the clinic, carry out outreach visits to sub-samples of defaulting mothers and give pep talks to husbands and opinion leaders on immunization to encourage their wives to immunize their children completely. In the control group, there was no such intervention. Results show that women in the experimental group made 80-90 percent of their expected visits to the clinic to immunize their children, while women in the control group made only 30 percent of their expected visits to the clinic. With a Chi-square (x^2) calculated at 37.6 at 0.5 significance level, the difference is very significant. Ensuring the social support of husbands and opinion leaders for immunization, motivating the field staff for defaulter tracing, instructional support and streamlined clinic procedures are essential elements in immunization campaign targeting rural women.*

KEYWORDS: Improving Immunization Coverage, Immunization Campaign in Nigeria.

INTRODUCTION

Health is an essential ingredient and precondition for both human and national development. Because the health of children is a decisive indicator of socio-economic development, the World Health Organization (WHO), launched the Expanded Programme on Immunization (EPI) in 1974 as a means of saving five million children from dying every year or being permanently disabled as a result of diseases such as measles, tetanus, polio, whooping cough, diphtheria and tuberculosis (WHO 1981).

Immunization is essentially a preventive measure against communicable diseases of childhood. Its purpose is to produce a herd immunity. It is the surest means of saving children's lives exposed to the deadly childhood diseases, such as Tuberculosis, Diphtheria, Whooping Cough, Tetanus, Measles and Polio. The immunization of 80 percent of the World's children against these six killer

childhood diseases has been a priority of the World Health Organization and national governments, considering that vaccine preventable childhood communicable diseases are the leading causes of infant morbidity and mortality in the developing world.

Statement of the Problem

The Nigerian government embarked on the Expanded Programme on Immunization (EPI) in 1975 with assistance from the World Health Organization (WHO) and UNICEF. The objective of the programme was to achieve 80 percent coverage of the target population by the year 1990. The implementation of the programme has had many problems at the local level. Consequently, Nigeria has not achieved the goals set for the programme. Imoh (2009:110) has attributed this failure to several factors. First, the level of mass media involvement in promotional activities was low and limited. Their role has been limited to fostering favourable attitudes towards EPI rather than providing specific details of its adoption. There are limited interpersonal efforts by extension workers to reach the rural populations, scattered over large geographical areas, some of which are not accessible to mass media messages, outreach operations and static posts. Secondly, the staff at the primary health care facility level have not been adequately trained and so do not possess the technical skills necessary to interact optimally with the clients. Communicating immunization to the people has not always used the channels most accessible and credible to the people. The influence that husbands and other opinion leaders in the community have on mothers' decision to immunize their children is not recognized, with the result that they are often not targets of immunization messages. In the diffusion of innovations the role of opinion leaders in legitimizing and reinforcing the messages cannot be overemphasized.

Research has shown that the time spent by mothers at the immunization centre and the attitude of health workers to mothers have often discouraged mothers from attending vaccination centres(Imoh, 1991,24). In several health facilities, there is inadequate record keeping, supervision and monitoring of staff and no effective mechanism for taking remedial action with the result that short comings in the programme performance are left undetected and uncorrected.Instructional materials on immunization are often not available and whenever they are available, they are not specific to the target population and their distribution and use remain limited (WHO, 1992, 15). Against this background, the study seeks to find answers to the following questions.

i. What conditions influence a mother's decision to complete the childhood immunization after receiving immunization messages?
ii. What influence do husbands and other opinion leaders in the community have on mothers' decision to immunize their children?
iii. What role does staff motivation play in the quality of services delivered?
iv. What role does instructural support and oral commitment by mothers at exit points play in their willingness of mothers to return and complete immunization visits?

Objectives of the Study

Immunization behaviour is dependent upon a host of enabling, predisposing and reinforcing factors. This study therefore sets out to:

1. Identify the factors that influence mothers' decision to give their children complete immunization after receiving immunization message.

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2. Study the relationship between the user community involvement in planning and implementation of immunization programmes and their level of participation in the programme.
3. Study the role of influence and social pressure at the individual, family and community level on the mothers' decision to immunize their children.
4. Study the influence of staff orientation and motivation on their attitude towards mothers at the immunization clinic.

Hypotheses

In consonance with the research objectives, two main hypotheses have been proposed for the study. They are:

H_1: The social interaction of mothers in the immunization centre and the immediate consequences of having a child immunized will strongly influence the mother's decision to return to the immunization centre to complete the schedules.

H_2: Social pressure and support of the husband for his wife will influence a woman's decision to come to the clinic for childhood immunization and return for subsequent schedules.

THEORETICAL BASIS FOR ANALYSIS

Participatory Communication Approach

This approach is derived from the sustainable human development school of thought. A redemptive attempt to address the dependency issue, encourage decentralization, endogenous and multisectoral approaches to planning and decision making. As Yoon (2003) states, its focus is on people, their liberation and self-reliance. Its goal is to improve the quality of life, conserve and enhance the people's values, beliefs and cultures, in order to ensure global peace, social justice, freedom and sustainable development. This model, otherwise known as the "multiplicity model" recognizes the interdependence of all nations within the global village, but stresses that development is to be situation specific. Every nation is distinct in its historical, socio-cultural and economic conditions and no universal model is applicable, a multiplicity of strategies will have to be used, based on each nation's "initial condition". The participatory approach to development communication advocates the use of indigenous resources, and localsocial systems to bring about social change and development at the local level to ensure that the basic needs interests preferences and values of the people are protected (Rawjee 2002).

> ***The role of communication in participatory development is to conscientise the common people to their needs and problems, facilitate problem articulation, help in self-development efforts, foster cultural growth and autonomy, and serve as a tool for diagnosis of a community's problem.***

The participatory process uses focus group discussions, interviews, rapid assessment, participatory rural appraisal activities and ethnographic studies with potential beneficiaries of development programmes to gather and process information. This process enables the recipients of development messages to take part in the development decision-making process. The message that is eventually constructed is credible, because the sources of the information reside within the community. It advocates a participatory communication approach that is multidimensional, multi-step, multi-network, vertical and horizontal. The role of the mass media in this model is supportive rather than

central. It relies heavily on non-formal education, outreach, extension and rural cooperatives. The communication strategy uses the combination of mass media and interpersonal channels to facilitate awareness, problem solving, empowerment and sustainable development (Rawjee, 2002).

According to Pitt (1981), participatory communication is not so much what information a particular individual learns but rather the experience of participating as an equal in a shared process. It can be in the form of focus group discussion and interviews with potential users to obtain feedback and monitor programme implementation. Through feedback, the basic needs of the person who is to change are detected and focused upon, the weaknesses in the campaign objectives, strategies and messages are detected and modified to suit the situational realities.

The participatory approach is exemplified in Tanzania's "Man is Health" project, (Hall 1978) Honduras "Mass Media and Health Practices Project", "The Cuban Mass Literacy Campaign" and Paulo Freire's Basic Education Movement in North Western Brazil (Freire, 1972, Haffey 1984). Experiences derived from these campaigns show that their success depends on:

- An active field staff to organize and supervise field operations with relevant transport and communication support.
- An interministerial cooperation between health and other line ministries.
- Campaign focus on limited subject matter.
- Institutional capacity building and commitment of staff to facilitate social interaction with those supposed to change.
- Use of all available forms of communication media and channels including outreach and interpersonal face to face interactions in order to reach as many people and reinforce the messages.

The Participatory Communication approach built around an integrated media network, fosters empathy and equal participation for all group members and their leaders in exploring the local implications and applicability of information disseminated. Another important aspect of the participatory approach is programme monitoring and evaluation, which allows planners to spot problems and make adjustments, rather than wait for programmes to fail and blame the victims (Mckee, 2002).

The process provides plenty of opportunity for the intended receivers of information to dialogue with the senders of the message, for clarification and conformation. The difference between the provider, sender and recipient of information is deliberately blurred because everyone taking part in the programme (health staff, community leaders, mothers etc) can both provide, request and receive information. The knowledge that is eventually generated is shared and validated by the community, which provides a shared foundation on which to take collective action and bring about communal rather than isolated individual changes. The participatory approach is superior to unidirectional media channels in processing information related to communal priorities, family values, cultural heritage, etc. The approach has the ability to motivate people to take part in a process and subscribe to its results.

Diffusion of Innovation Theory

The diffusion of innovation theory identifies the conditions which enhance or impede the rate of adoption of an innovation. Postulated by Rogers (1963), the theory explains the process of social change which is precipitated by the adoption of an innovation. The major prediction of the theory is that the media and interpersonal contacts such as opinion leaders have an influence on the decisions of individuals in society to adopt an innovation. In this case, the influence and support of husbands, family members and local opinion leaders is vital to a mother deciding to immunize her child and complete all the required visits to the clinic.

The Instructional Design Strategy

The instructional design strategy designed by the Academy for Educational Development (AED, 1985) focuses on individual learning as its fundamental objective. It draws heavily on formative research, pretesting and sequencing of programme activities which fall under three main stages:

i. Pre-programme planning and development
ii. Instructional intervention and
iii. Monitoring and evaluation.

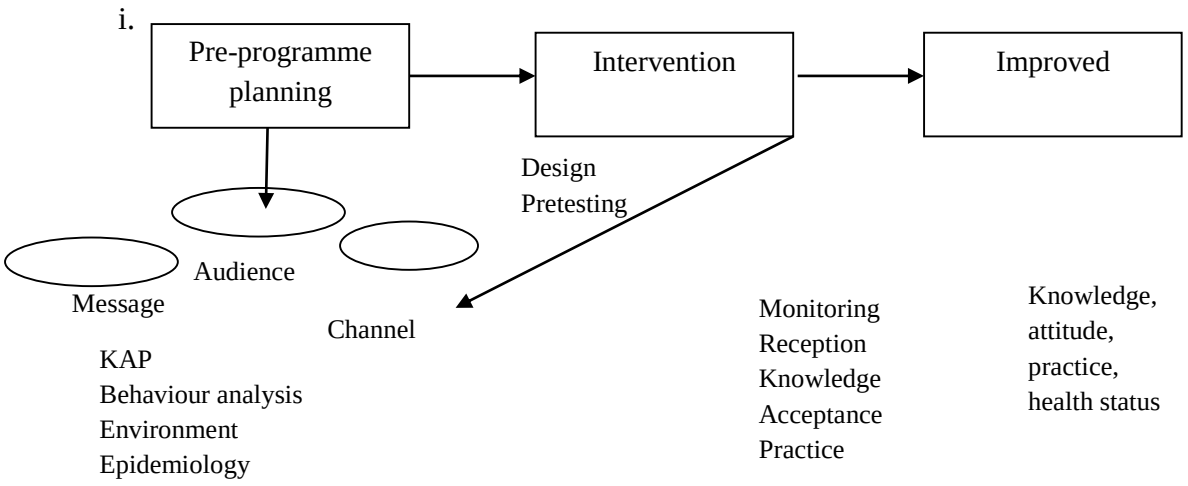

Fig. 1: Instructional Design Model (AED 1985:7)

The ***pre-programme planning and development stage*** emphasizes the collection of information needed to prepare an effective programme design. Information is collected on the different audiences to be reached to identify their perception of the problem and the behaviours being advocated, the resources available and the most effective media and channels needed to achieve the desired results among the different audiences. ***The intervention stage*** uses feedback from the pre-programme phase to plan or modify the intervention plans. The messages designed are pretested, produced and disseminated through appropriate channels with adequate organizational and managerial support to ensure reinforcement or consistency of opinion among the people. ***The monitoring and evaluation stage*** grows out of the intervention stage, permitting regular sampling of the subsample to measure impact and outcome of the campaign. Monitoring unveils the socio-economic and socio-cultural obstacles to adoption (Hornik, 1985) and at the same time, channel

and semantic noise in the communication system are detected, making it possible to modify message content, channels and strategies.

Social Network and Social Support Theory

This theory developed by Israel (1985), explains the mechanisms by which social interactions can promote individual and collective health behaviour at the interpersonal level. It emphasizes the importance of social network, social support, emotional support, instrumental support and informational support in problem solving and decision-making. In this context, support provided by the community leaders, husbands and family members is critical to mothers' decision to immunize their children. In the same vein, information support in the form of pamphlets, leaflets and health education by health workers in addition to oral commitment by mothers to return to the clinic, also motivates mothers to return.

METHODS

A clinic based behavioural study, using a quasi-experimental design was used to study how mothers decide on immunization and find ways of enhancing immunization compliance. The study also examined the conditions that influence a mother's decision to complete the childhood immunization after receiving immunization messages and the role of husbands in mothers' decision to immunize their children.

Sample

Sixty three mothers with children were enlisted in three maternal and child health (MCH) clinics in Bida, Lapai and Agaie; to study how mothers decide on immunization and find ways of enhancing immunization compliance.

Table 1: Sample for the Clinic Based Behavioural Study

Clinic	No. of Mothers enlisted	%
MCH Clinic Bida (Exptal)	24	40
MCH Clinic Lapai (Exptal)	22	35
MCH Clinic Agaie (Control)	17	25
Total	62	100

Study Design and Procedure

Clinic staff in two experimental MCH clinics in Bida and Lapai were given orientation and instruction so that they can organize better patient flow and health education on immunization. In these clinics, 24 mothers were enlisted in Bida while Lapai had 22 mothers. Agaie MCH clinic, which was used as the control, has 17 mothers enlisted. In the control group, there is no orientation and motivation for clinic staff in terms of instruction and supervision.

Special interventions by the trained clinic staff include:

i. Shorter clinic procedure such as, shorter clinic time spent by the mothers.
ii. Health talks on childhood immunization that have been broken into smaller bits specific for each immunization and given in small groups.
iii. Oral commitment by the mothers to return for the next visits at the exit point.

iv. Printed materials designed to remind mothers of these visits and what to do.
v. Outreach visits by clinic staff to sub-sample of mothers who have defaulted. The aim is to find out why they defaulted, have a pep talk with their husbands and opinion leaders to encourage their wives to immunize their children completely.

In the control group, there were no such "interventions". The usual clinic procedures are followed while both staff and mothers are left unmotivated. The three clinics (2 experimental and 1 control) were monitored by trained researchers using mother tracking forms to collect data on defaulters and returnees for nine months. The researcher working in close collaboration with a Healthcome Consultant, supervised the data collection thrice; once at the beginning, at the end of six months and at the end of nine months.

Instruments

The instruments used for the study were developed and refined. They include:

i. Clinic Observation Forms
ii. Interview schedules for compliers and defaulters and
iii. Baseline interview schedule.

The observation forms were used to collect information on how the mother and child are handled in the clinic and the quality of immunization messages given out to them. Other instruments used include; the interview schedule forms which are used to collect data on defaulters and returning mothers. The defaulter tracing forms contained questions such as:

i. Why have you not returned to the clinic for the next immunization visit?
ii. Did someone or something hinder you or discourage you not to come back?
iii. Has any one in your family been affected by one of the immunization diseases?
iv. Do you think you can protect your child against diseases? How?
v. Did your child have side effect? If yes, how did you treat it?
vi. Did the clinic staff tell you about paracetamol? etc
vii. If someone motivated the mother to come to the clinic.
viii. If anyone in the family ever had any of the killer diseases.
ix. Why the mother decided to come back for the immunization.
x. What mothers thought about the clinic and the attitude of the clinic staff.

FINDINGS

The degree to which the users involvement in planning and implementation of the programme is linked to their level of participation in the programme is shown on Table 2.The experimental groups; MCH Bida and MCH Lapai which were involved in planning and implementation of the programme in their communities recorded 78% and 90% utilization levels respectively.

Table 2: Clinic Based Behavioural Study

			← INTERVENTIONS →										OUTPUT		
Clinic	No of Mothers enlisted	Percentage %	Focus groups discussion with mothers (FGDs)	FGDS/Meetings with fathers/ men groups	Visit to opinion leaders and family members	Clinic staff motivation training/ feedback system	Instruction	Oral commitment	Stream-lined clinic procedures	Social support	Defaulter tracing/approach	Market days strategy, PAS	Possible number of visits by Mothers to the Clinic	Observed No of visits by mothers to the Clinic	%
MCH-Bida (experimental)	24	40	√	√	√	√	√	√	√	√	√	√	96	75	78
MCH – Lapai (Experimental)	22	35	√	√	√	√	√	√	√	√	√	√	88	80	90
MCH – Agaie (Control)	17	25	-	-	-	-	-	-	-	-	-	-	68	21	30
TOTAL	63	100													

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The control group, (MCH Agaie), which was not involved in planning and implementation of the immunization programme in their area, recorded only 30% utilization level.In order to establish a casual relationship between involvement in planning and implementation and level of utilization and participation, data from the study was subjected to a chi-square test, to test the null hypothesis, as shown on the contingency table below.

Table 3: Relationship between users involvement in planning and implementation and level of participation in the programme.

Groups	**No of Mothers**	**Observed No. of visits (%)**	**Expected No. of visits**	**O - E^2**	**O -E^2**	**O -E^2 E**
MCH BidaExptal	24	75(78)	96	-21	+441	4.59
MCH LapaiExptal	22	80 (90)	88	-8	+64	0.61
MCH Agaie Control	17	21(31)	68	-47	2209	32.4
Total	63	176	252	76	2714	37.6

The Chi-square (x^2) calculated is 37.6. However, with three degrees of freedom, x^2 calculated at 0.5 significance level, is 7.8 and at 0.1 significance level, it is 11.3. This shows that there is a significant difference between the experimental groups and the control group in their participatory and utilization responses. The null hypothesis is therefore rejected at both 5% and 10% significant levels.

DISCUSSION OF FINDINGS

From what this study has shown in Tables 2 and 3, there is a relationship between the communication strategies used and the level of participation received.
The communication strategies used to enhance the level of immunization uptake include the following interventions:

i. Focus Group Discussions (FGDs) with mothers, fathers and men groups in the community.
ii. Interpersonal communication in the form of outreach and visits to opinion leaders, traditional leaders and family members in the community.
iii. Orientation and motivation of clinic staff through training and establishment of a feedback mechanism.
iv. Streamlined clinic procedures, such as shorter time spent in the clinic by mothers.
v. Provision of instructional materials on immunization, such as pamphlets, book dividers, fliers etc, as aid-memoire for mothers to take home and read and remind them of subsequent visits to complete the immunization schedule.
vi. Oral commitment by mothers at the exit point to return for the next visit.
vii. Social support by husbands and other opinion leaders in the community for mothers to influence mothers' decision to immunize their children.

viii. Market day strategy which involves visits to the community on market days to promote immunization using public address system (PAS).
ix. Defaulter tracing of mothers who have defaulted on their immunization schedule visits.

The findings show that women who were involved in Lapai and Bida MCH clinics made 80-90 percent of their expected visits to the clinic to immunize their children, while women in Agaie who were not involved in the planning and implementation of the programme made only 30 percent of their expected visits to the clinic. This suggests a significant difference between the experimental groups and the control group in their participatory and utilization pattern.

By training health workers in the use of health supportive promotional and educational materials on the immunization programme, their knowledge and interest in the programmeincreased. This motivated them to make community based interpersonal visits to defaulting mothers, their husbands and opinion leaders to convince them to support the immunization programme.
The social interaction of mothers at the immunization centre, the immediate consequences of having a child immunized, the streamlined time saving clinic procedures and oral commitment by the mothers, strongly influenced their decision to complete the schedules.

SUMMARY

This study has shown that health communication and public information are vital aspects of a comprehensive health promotional strategy to enlist community support and participation in the control of vaccine preventable diseases in Nigeria. Large scale communication programmes targeting rural mothers are more effective when health workers are trained and motivated to interact positively with clients, streamline clinic procedures to reduce mothers waiting time, trace defaulting mothers and hold interpersonal discussions with husbands and local leaders to support their wives to come to the clinic to immunize their children and complete all the visits. In the diffusion of innovation, such as childhood immunization, it has been established that the presence of social reinforcing factors, such as husbands and opinion leaders can make a difference between intention of a mother to immunize her child and the actual performance of that act. In communicating immunization messages, audiovisual support is required to help disseminate relevant information, to create awareness, generate interest and encourage decision makers, opinion leaders, health workers and husbands to help mothers understand the programmes and make the right choices and decisions.

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Acknowledgement

The Author acknowledges the support provided by the USAID/CCCD (Control of Childhood Communicable Diseases) Office, Lagos, Nigeria, the Officials of The State Ministry Of Health, Minna, Niger State and the Health workers who participated in this project in Bida, Lapai and Agai Local Government Areas of Niger State, Nigeria.