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THE EFFICACY OF ANTI-TETANUS INFORMATION DISSEMINATION BY EPI AND BETTER LIFE PROGRAMME

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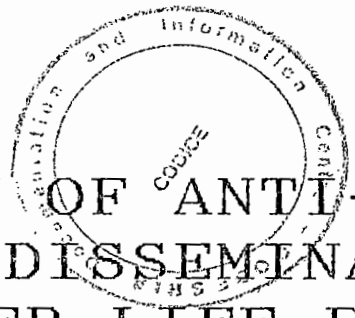

THE EFFICACY OF ANTI-TETANUS INFORMATION DISSEMINATION BY EPI AND BETTER LIFE PROGRAMME

A PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF DOCTOR OF PHILOSOPHY IN HEALTH EDUCATION

BY

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REG. NO.: PG/PHD/89/7919

UNIVERSITY OF NIGERIA,
NSUKKA

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CERTIFICATION

Atufunwa, Florence Oluchi, a post-graduate student in the Department of Health and Physical Education with the Registration Number PG/PHD/89/7919 has satisfactorily completed the requirement for Course and Research work for the degree of Doctor of Philosophy in Health Education.

The work embodied in this dissertation report is original and has not been submitted in part of full for any other diploma or degree of this or any other University.

Head of Department

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APPROVAL PAGE

INVESTIGATOR: ATUFUNWA, F. O. (MRS.)

THIS PROJECT REPORT HAS BEEN APPROVED FOR THE AWARD OF DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D) IN EDUCATION OF THE DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION, UNIVERSITY OF NIGERIA, NSUKKA.

BY

PROJECT SUPERVISOR

INTERNAL EXAMINER

EXTERNAL EXAMINER 29/4/93

HEAD OF DEPARTMENT

DEAN, FACULTY OF EDUCATION

DEDICATION

To my late Parents:

Mr. Jonathan Ebolugwu Nwokorie
&
Mrs. Jemimah Aburuaku Nwokorie

For they laboured to sow "this mustard seed"

Also

To my beloved husband, MR. ALFRED AHAMEFULA ATUFUNWA.

Without his permission, encouragement and support, this height could not have been attained.

ACKNOWLEDGEMENT

I wish to express my appreciation to my project supervisor, Professor G. B. I. Onuoha, whose guidance and encouragement brought the aspiration of this work to fruition. Worthy to be mentioned are the valuable suggestions by Professor F. A. Amuchie; Dr. (Mrs.) o. C. Nwana; Dr. S. U. Anyanwu and other members of the academic staff of the Department of Health and Physical Education, University of Nigeria, Nsukka (UNN), which enhanced the successful completion of this project.

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This project would not have been a reality without the financial assistance from Council for the Development of Economic and Social Research in Africa (CODESRIA) to them I express my profound gratitude. I wish to acknowledge my profound indebtedness to all the members of my family whose untiring support and prayers counted much in the successful completion of this project.

Above all, to God be the glory for the successful completion of this work.

Signed
ATUEUNWA, Florence Oluchi (Mrs.)

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ABSTRACT

The study made use of quasi-experimental design to compare the efficacy of anti-tetanus information dissemination by EPI and BLP groups in Okpofe Ezihinite and Akabo Ahiazu, Imo State, Nigeria.

Three research questions and three hypotheses guided the conduct of the study. The population consisted of all the eligible women for anti-tetanus immunization (pregnant women and women within the child-bearing age 15 to 44 years age) in Akabo and Okpofe with an estimated number of 320 and 309 respectively. The whole population was used in the study. Two groups were involved in disseminating tetanus toxoid information in two different communities. The EPI group (six in number) was designated as the control community (Okpofe) while the BLP group was designated as the experimental community (Akabo).

Prior to the diffusion of information, the BLP group was exposed to two days training on the relevant information about tetanus toxoid. The two groups were then allowed to disseminate tetanus toxoid information for six months in the respective communities assigned. During the period of the campaign, records of eligible women that received tetanus toxoid immunization six months before the intervention period within the study areas were collected and compared with the aid of t-test of difference between proportions.

The results showed that:

1. Greater proportion of BLP group demonstrated correct knowledge of tetanus toxoid immunization after the orientation (85.00%) than before the orientation (28.57%).

2. The eligible women who got tetanus toxoid information from the BLP group responded more highly (78.38%) to tetanus toxoid immunization than those that got similar information from the EPI group (25.89%).

3. The eligible women responded more highly during the experiment (79.38%) than before the experiment (28.31%) at the experimental community.

4. Equal proportions of the eligible women (25.89, 26.21%) responded to tetanus immunization during the two periods at the control community.

On the basis of the discussions of the findings, the following recommendations were made:

1. Tetanus toxoid training programme should be designed for any group that is to be used in complementing the effort of the EPI group in tetanus toxoid information dissemination.

2. Tetanus toxoid information disseminators should adapt their information to suit the socio-cultural context of their target audience.

3. Programme planners should involve the beneficiary of any health programme in the planning and execution of such programmes.

4. Other groups in the community should be identified, trained and involved in tetanus toxoid information dissemination.

CHAPTER ONE

INTRODUCTION

Background To The Study

Tetanus toxoid immunization programme is one of the major components of Expanded Programme on Immunization (EPI) which is inoculation given to pregnant women to protect their new born babies from the attack of tetanus. During the onset of EPI in Nigeria in 1978, provision for tetanus toxoid was only made for pregnant women. Two doses of tetanus toxoid was recommended as necessary for adequate protection. The first dose was to be taken from the fourth month of pregnancy and an interval of four weeks is given before the second dose. Pregnant women were expected to repeat the schedule during every pregnancy.

But the reviewed tetanus toxoid immunization programme (by WHO 1988) recommended the vaccination for all women within the child-bearing age (15 - 44 years of age) in addition to pregnant women. The schedule consists of the first dose taken as early as fifteen years old or as soon as pregnancy is detected. The second dose is given four weeks after the first dose; the third dose is administered at least six months after the second dose or during a subsequent pregnancy. The fourth and fifth doses are given at one

year intervals respectively. When a pregnant woman is adequately vaccinated with tetanus toxoid, the vaccine raises the resistance level of the woman against tetanus; and this high protection level passes through the placenta to the unborn child. The immunity having passed to the unborn child, guarantees protection of the child against the attack of tetanus within the first three months of birth.

New born babies whose mothers are not protected with adequate dose of tetanus toxoid are more prone to the attack of tetanus and majority of such unprotected babies die during to the attack of neonatal tetanus (attack of tetanus during the first 28 days of life). Unfortunately, instead of much attention being paid to the vaccination against this disease, it is rather being neglected. This assertion is buttressed by the findings of Babaniyi, Parakoyi and Muhammed (1991) that the coverage with tetanus toxoid of pregnant women in the developing countries was only 25 per cent which they stressed was the lowest among all EPI antigens. They further noted also that tetanus disease accounted for 62 per cent of infant mortality in their study group.

Similarly, a report from UNICEF Health Section (1989) emphasized that an effective vaccination is the surest way to stem infant and child mortality at present. Regrettably, the report stressed that no more than 25 per cent of Nigeria's under five and

expectant mothers have been reached and so infant mortality in the country remains high. It further revealed that for the millions of naira Nigeria has spend on EPI, at most one out of every five children and one out of ten pregnant women have been vaccinated.

Considering the high mortality rate of tetanus disease and the availability of vaccine to guard against its attack, one would have expected that every pregnant woman would avail herself the opportunity. Surprisingly, the target group are not responding adequately to the vaccination as was observed by UNICEF (1988) that only about 12 per cent of Nigerian women receive anti-tetanus vaccination. This suggests that more than half of the new born babies are not protected against the menace of the disease. This situation raises a question as to why mothers neglect the vaccination. The reason for the low patronage was suggested by the study of Obasi and Ugwuanyi (1986) and Olaore (1988) as due to insufficient awareness regarding the need and availability of the vaccination.

The responsibility of creating all necessary awareness on tetanus toxoid is vested on the EPI workers. These EPI workers made of health professionals, health aides and orderlies, community mobilization officers and local information officers have acquired experience over the years on EPI services of which tetanus toxoid immunization is one. They are assigned to different communities to render EPI services (educate and vaccinate the target

group). The observation of insufficient awareness despite the effort of EPI workers tends to suggest the need to explore alternative mode of reaching the target group with the necessary information.

Information dissemination is a process of sharing ideas, messages or attitudes between people or group through language, gestures or signs with the aim of eliciting a response. Adequate information dissemination is essential in creating awareness regarding the need, availability of any programme. In the case of tetanus toxoid immunization, it is through effective awareness campaign that the target audience for the programme would be able to know the need for the vaccination, where the vaccination can be obtained, the quantity required, time interval between doses and duration of protection of each dose of tetanus toxoid. Similarly, misconceptions and superstitious beliefs which could create obstacles in the adoption of tetanus toxoid immunization can be corrected through proper education of the programme recipients.

Buttressing the importance of effective information dissemination in immunization programme, WHO (1986) revealed that evidence from programmes showed that communication effort increased immunization coverage. The report further cited the example of Yemen in Arab Republic in 1980 and 1981, during which a television campaign for immunization increased two-times the previous monthly coverage.

Effectiveness of information dissemination more often than not depend on the medium employed. Communication media are abound, they include television, radio, print materials, posters, significant persons in the community such as community leaders, teachers group/organization etc. The extent of effectiveness of any media depends on the following factors availability, general accessibility, and suitability to audience's cultural background. It is in consideration of these factors that the study explored the possibility of using the Better Life Programme for Rural Women (BLP) in disseminating tetanus toxoid information.

The BLP is one of the women organizations present in Akabo. This group was selected out of the other groups within the community to disseminate tetanus toxoid information because of the following reasons:

1. Membership into this organization is open to every adult woman irrespective of religious, socio-political and cultural background.
2. The organization is available in every part of the country in case there is the need to use them for the same purpose elsewhere.
3. The group is better organized than other women groups.
4. It is project oriented and relatively more active in community development and child survival programmes than others.

5. Some of the members fall within the target group for the immunization exercise. Therefore involving them in the dissemination of tetanus toxoid information is adequate since it is in line with the principles of Primary Health Care which gave credence to community participation and involvement in any health programme designed for them.

The location for this study were Akabo in Ahiazu (Experimental Community) and Okpofe Ezinihite (Control). Both communities are in Imo State. The two communities share similar characteristics and were selected for study because the researcher is familiar with them. The EPI group in the study were professionals as well as the conventional group of personnel responsible for carrying out tetanus toxoid campaigns which suggested that they must have applied their expertise and experience in their persuasion. They are fewer (six in number) than the BLP (hundred in number). They were not necessarily members of Okpofe whom they persuaded to take tetanus toxoid immunization and so may not have been well grounded with the socio-cultural context of their audience.

On the other hand, the BLP are neither professional nor conventional group in disseminating tetanus toxoid information. They are just interested in undertaking communal projects that have direct benefit to the women folks. Being members of the community pre-supposes that they are familiar with the socio-cultural context of their audience.

Statement of The Problem

Effective communication is generally accepted as a veritable ingredient in effecting positive change in the community. With regard to tetanus toxoid immunization, it is necessary for creating awareness in the eligible women for the immunization regarding the venue for vaccination, the need, the required dosage and time interval between doses. It is also essential in motivating and persuading the eligible women to have the immunization.

It is in the light of the indispensable role of adequate information dissemination that the EPI workers are employed and charged with the responsibility of providing the necessary information on tetanus toxoid to the eligible women. Regrettably, Obasi and Ugwuanyi (1986) and Olaore (1988) observed a low turn-out for vaccination due to insufficient awareness regarding the need and availability of the programme. The observation was confirmed by study by Babaniyi, Parakoyi and Muhammed (1991) that the coverage rate of tetanus toxoid was only 25 per cent.

The foregoing suggests that there is a gap in the dissemination of tetanus toxoid that needed to be filled. The problem of this study was therefore to find a suitable group through which tetanus toxoid information could be more effectively disseminated with a view to increasing the turn-up rate for the vaccination.

Purpose of the Study

The purpose of the study was to compare the efficacy of anti-tetanus information dissemination by EPI and BLP groups in two communities namely Akabo Ahiazu and Okpofe-Ezinihite, Imo State. The specific objectives were to:

1. Use trained BLP group in Akabo and EPI group in Okpofe to disseminate tetanus toxoid immunization information in the respective communities of study.

2. Compare the adoption pattern of eligible women who received anti-tetanus immunization information from the regular source (EPI group) and those who got similar information from the BLP group.

3. Compare the attendance records of eligible women to tetanus toxoid immunization six months before this study and six months during the intervention period.

Research Questions

The following research questions are formulated to give focus to the study:

1. What proportion of the BLP group demonstrated correct knowledge of tetanus toxoid before and after the orientation programme?

2. Is there any difference in the adoption rate of tetanus toxoid immunization between the eligible women who received the information from the EPI group and those that got similar information from the BLP group?

3. Is there any difference in the records of attendance of eligible women to vaccination six months before the study and six months during the intervention period?

Hypotheses

1. There is no significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid before and after the orientation programme.

2. There is no significant difference in the adoption pattern of tetanus toxoid immunization between the proportion of the eligible women who received the information from EPI group and those that got similar information from the BLP group.

3. There is no significant difference in the records of the proportion of attendance of the eligible women to vaccination before and within the intervention periods.

Significance of the Study

The study provided data on the need for training programme implementors on the necessary skills they are expected to implement. Such training information is essential since studies by Jaus (1975) and Zeitler (1981) have confirmed that pre-training skills enhanced the knowledge and competence in the implementing process. Jaus further emphasized that pre-training was indispensable since the mere wish to teach effectively was not sufficient to help achieve the desired goal in the absence of appropriate knowledge. This finding would induce the programme planners in designing tetanus toxoid training programmes for any group expected to disseminate the required information to a target audience.

It was revealed from the study that the eligible women who got tetanus toxoid information from the BLP responded more highly to tetanus toxoid immunization than those that got similar information from the EPI group indicating that the BLP appeared to be more effective in their information dissemination. The reason for the result was suggested to be due to the fact that the BLP shared

similar socio-cultural characteristics with their audience. It is hoped that this finding would cue future information disseminators to adapt their information to suit the socio-cultural context of their audience. The importance of this was reiterated by Barker, Wahlers, Legala and Kible (1983) that attempt should be made by information disseminators to present their information in a manner that is consistent with the audience background and expectation. In addition, Sachramm (1965) advised that any campaign must be based on the understanding of the life, beliefs and attitudes of the villagers and the social factors that help to determine how they lived.

Another reason suggested that enhanced the performance of the BLP was that some of them fell within the eligible group for the immunization. The fact that they were beneficiaries of the immunization would have given them some kind of motivation and commitment to the success of the programme. This is because they would have realized that they would share in the success or otherwise of the programme. This finding would enable programme planners to realize the need of involving programme beneficiaries in the planning and execution of programmes meant for them.

Information on the eligible women within the child-bearing age but who may not necessarily pregnant to complete the required five doses of tetanus toxoid vaccination necessary for long life

protection. Secondly, this information along with other relevant information on tetanus provided in the study would help to reduce the level ignorance within the community of study about the immunization observed by Obasi and Ugwuanyi (1986) and Olaore (1988) and other communities where the study might be replicated.

The participation of BLP in this study would motivate the participation of BLP groups in other communities in tetanus toxoid information dissemination. Such magnitude of involvement would considerably increase awareness of the usefulness of the vaccination and consequent increase in adoption rate. Increased adoption rate of the proper schedule of tetanus toxoid vaccination by eligible women will naturally increase child survival rate. There is also the likelihood that the findings of the study would encourage the BLP group to other possible useful roles they could play in other child survival programme within their community.

The successful use of BLP group in this study may likely trigger the programme planners to explore and involve other available groups within the community that could complement the efforts of EPI workers with respect to tetanus toxoid information dissemination.

Scope of the Study

The study was restricted to comparing the Efficacy of Anti-Tetanus Information Dissemination by EPI and BLP programmes in Okpofe Ezinihite and Akabo Ahiazu, Imo State, Nigeria. This topic

was chosen because there was a general low coverage rate of tetanus toxoid and consequent high neonatal death rate as was observed by WHO (1989) and Babaniyi, Parakoyi and Muhammed (1991). This situation was blamed on inadequate dissemination of relevant information on tetanus toxoid vaccination to pregnant women and women within the child-bearing age for whom the immunization was meant (Olaore 1988, WHO 1986).

The study therefore examined the effectiveness of tetanus toxoid information disseminated by the BLP at the experimental community (Akabo) and the EPI at the control community (Okpofe). Their effectiveness was determined through a comparison of turn-up of the eligible women for the immunization from the respective communities of study during the six months intervention period. Also compared was the records of turn-up for the vaccination before and during the intervention periods in the respective communities of study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2:1 Introduction

The aim of this chapter is to review related literature to the Efficacy of Anti-Tetanus Immunization Information Dissemination by two different groups. For the purpose of this study, the related areas reviewed were:

2:2 The Theoretical Basis of The Study.

2:3 EPI and Communication.

2:4 Control Measures Against Tetanus.

2:5 Group As a Working Strategy.

2:6 Factors for Effective Communication.

2:7 Obstacles to Effective Communication.

2:2 The Theoretical Basis of the Study

The Communication theories relevant to this study are The Consistency Theory and Reinforcement Theory.

The tenet in consistency theory is that people want their beliefs and judgements about issues or things to be consistent with one another. In order to reduce dissonance created by inconsistencies in beliefs, judgements and actions, people

expose themselves to information that are consistent with their ideas and actions and shut contrary information. The consistency theory gives explanations for the selectivity and screening tendencies which most people exhibit in the processing of information. The knowledge and consideration of this theory will enhance the effectiveness of information dissemination. In order not to create inconsistency in the existing views of a target audience, the information disseminator should collect and consider the baseline knowledge, beliefs, attitudes, opinion etc. of the target audience on an issue she is about to communicate to them. The information disseminator will then adapt the new information to suit with the existing background of the target audience. In a situation where the new information is a direct opposite of the audience existing background, the message bearer should then circumvent the new information in such a way that it will seem not to be in contrary with the views of the target audience.

The theory of reinforcement simply suggests that people process information that are potentially rewarding, and avoid those that are potentially not rewarding. The theory points to the need to explain to a target audience the benefits they would derive from listening to health talk being given to

them, or by adopting a particular programme or practicing a new behaviour being encouraged. If the audience realize the need for the desired behaviour change, they are more likely to be motivated to change than if otherwise.

These two theories, provided the framework for the four screening devices described by Barker, Whalers, Legala and Kible (1983) namely;

(a) Selective exposure which is the tendency for people to avoid information which they feel is potentially non-rewarding or inconsistent with their view-point.

(b) Selective attention is the tendency for people to focus their attention only on information that is consistent with their attitudes, beliefs and values.

(c) Selective perception is the tendency to perceive what people want or expect to perceive and to interpret the information in a manner consistent with their expectations.

(d) Selective retention is the tendency to remember only information that is rewarding or consistent with initial attitudes and beliefs.

2:3 EPI and Communication

Frimuth and Marron (1978) pointed out that communication plays an essential role in motivating changes. According to them, the most promising opportunities to reduce mortality

are through public information and education leading to prevention and early detection. Poehler (9178) affirmed that there is an immediate need for effective communication system to strengthen EPI services. He held the view that if the EPI services is to prosper, the communication components must be taken as crucial.

World Health Organization Report (1986), revealed that evidence from programmes showed that communication efforts increase EPI coverage. It buttressed the assertion by citing examples with Yemen in Arab Republic in 1980 and 1981 during which a television campaign for immunization increased the number of DPT and polio immunization by twice the rate in the previous monthly coverage. In addition, the demand for immunization remained high for several months after the television programme. The report later stressed that in addition to understanding the value of immunization, parents and prospective parents need to know where and when immunization is available, who should receive them, and when specific immunizations should be obtained. It emphasized that parents need information on the number of doses necessary for full protection, when they should bring their children back for the next dose as well as the common side effects.

Similar increase in EPI coverage due to communication was reported by Bertan and Reid (1985) during the National

Immunization Campaign in Turkey in 1985 for children under the age of five years. The report noted that during the campaign, every sector considered capable of playing any vital communication role in EPI services was consulted and involved. They further highlighted in the report also that communication was brought about by combined efforts of mass media, different individuals through face-to-face contact, the religious services, postal services, school and voluntary organization. The report also emphasized that through the combined effort of all the sectors in disseminating information, in the campaign, immunization coverage shifted from 25 per cent pre-campaign to 91.7 per cent post-campaign.

According to UNICEF (1985), during the tetanus toxoid immunization campaign in West Nusa Tenggara, Indonesia, different channels of communication were used consisting mainly of volunteers at village and sub-village levels, group of women and women organizations, and health workers including mass media. The group carried out the work of educating mother and the public on the need for tetanus toxoid immunization as well as other relevant information necessary for the success of the programme. The report noted that within the period of campaign, a coverage rate of 93 per cent for two doses of tetanus toxoid was obtained among women of child bearing age.

In addition, Risi, Becker and Franzosi, (1985) stated that there was extensive use of volunteers, workers from local health units and mobile teams in disseminating information in the Brazilian Immunization Programme. The report stressed that these groups of people spread poliomyelitis information as well as mobilized mothers to patronize the programme. According to the report, there has been the use of "surveillance guides" for surveillance of poliomyelitis in monitoring the immunization programme since 1982. In addition, they revealed that 90 per cent coverage, representing 20 million children have been achieved.

Furthermore, report from Argueta and Jaramillo (1985) on the effect of communication during a National Immunization Campaign in El Salvador, stated that there was extensive use of mass media, write-ups, and audio visuals to spread the necessary information about immunization. In addition, the church and different organizations helped to educate and sensitize the community about the programme. In conclusion, they pointed out that the wide publicity contributed to successful immunization rate of 87 per cent of children under five years of age.

Obasi and Ugwuanyi (1986) noted from their study that majority of people in Igbo-Eze Local Government Area of Anambra State were not aware of the existence of immunization

programme in their area. They inferred that the ignorance was the major factor militating against community participation in the immunization programme. Similarly, Olaore (1988) observed that refusal of parents to take their children to immunization centres for vaccination when due, is as a result of ignorance, which in turn is due to inadequate publicity and enlightenment. The adverse effect of inadequate communication as portrayed by Obasi and Uguwanyi's study as well as Olaore's assertion seems to buttress the need for effective communication in EPI outlined by WHO earlier.

Umeh (1987) believed that a major quality of every health educator is the possession of a sound communication knowledge. He affirmed that the effective use of communication channels results in the accomplishment of the set objectives. Shirreffs (1978) buttressed this view by asserting that it is the responsibility of all health educators to identify effective ways of communicating and suggesting how individuals can knowledgeably effect their own programmes of disease prevention and health maintenance.

Okigbo (1987), and Okorie (1987), in their different works on communication and rural development, agreed that effective communication is needed to sensitize the people, to persuade them as well as get them to be persistent in their use of new programme. Okorie further noted that the entire rural people need appropriate information about rural health

first aid measures. He advised that the needed information should be transferred with minimum distortion and be provided when needed. Akpan (1987), still stressing on the need for effective communication in rural development, emphasized that communication is accepted by experts as the most essential requirement for successful development effort. In his opinion, economic and social development would be considerably retarded without adequate and effective communication.

Similarly, Nwogu (1988), opined that in addition to the key elements of information, that is, education and entertainment, communication helps to influence or persuade, identify persons or objects, as well as motivate people to action and establish commonness or relationship with persons. Nwogu, conceives communication as having more powerful role not just motivating and building up but also being persuasive in nature.

Lin (1986), maintained that without the involvement of the mass media, the health sector cannot hope to inform the general public on health issues or to stimulate the process of community involvement. He quoted Chong as having observed that "life styles are no longer conditioned by climate and culture; they are initiated as fast as communications speed information from one country to another". Price and Allen-Sworth (1978), opined that although mass communications have

greatly increased the number of messages sent to the public, their influence is tampered with by the difference between the sender's and the receiver's view of the message. The objectives of the sender (according to them), include informing, teaching, pleasing and persuading, but the receiver views mass communication as a vehicle for enjoyment, learning and understanding. Price and Allen-Sworth's view seems to suggest that the objectives of the message-sender may be different from that of the receiver. This may be the reason why Lin (1986), and Nwogu (1988), maintained that communication is complete only when there is a feedback which gives an indication of the effectiveness of the communication.

2:4 Control Measures Against Tetanus

Bungudu (1988), pointed out that tetanus is an acute neurological disease caused by tetanus bacillus. In his view, the disease has no seasonality like measles and all ages could be affected. Further, he observed that the disease is of two types, neonatal affecting new born babies and non-neonatal affecting children and adults. Transmission is through contact with contaminated objects he noted.

In addition, Henrich, Brust and Richter (1973), stressed that tetanus is widely spread in the faeces of animals and man, in soil and in the environment surrounding habitations of animals or man. According to them, although the organism that

causes tetanus is everywhere, the disease is encountered largely in under-developed, over-crowded, and economically disadvantaged countries. Since immunization is totally effective in preventing tetanus, it is most frequently noted in countries or in ethnic groups in which effective immunization is less likely to be achieved. They further highlighted that in United States, tetanus is encountered most frequently in the backs in the rural South where a combination of more intensive exposure to spores and incomplete immunity are predisposing factors. Neonal tetanus (occurring in the first 28 days of life) is a serious and frequently fatal form of tetanus in developing countries, they added.

They also noted that incidence of clinical tetanus is determined by the immunization status of the population. Therefore, the immunization status of each person is a critical determinant of susceptibility to tetanus. In a person with inadequate immunity, essentially any wound or closely infected areas may serve as a portal of entry. According to Mandel, Douglas and Benneth, (1990) tetanus occurs sporadically and almost always affects non-immunized or partially immunized persons, or fully immunized individuals who fail to maintain adequate immunity with booster doses of vaccine. In addition, they observed that in countries without a major immunization programme, neonatal tetanus and tetanus in the young predominate.

World Health Organization report (1989) estimated that 200,000 deaths due to neonatal tetanus occurred annually in Africa. The report regretted that despite the progress made in the implementation of Expand Programme on Immunization, deaths from neonatal tetanus still account for a major part of overall mortality in the neonatal period. According to UNICEF (1989), neonatal tetanus has mortality rate of about 60 per cent and the disease is second only to measles as the leading killer of children among the EPI disease. The report affirmed that in many countries, it causes about half of all neonatal deaths and accounts for a quarter of infant mortality. According to the report, among the 800,000 new born estimated to die annually from neonatal tetanus, at least 270,000 are in the South East Assian Region and 200,000 in the African Region. The report went further to note that the cases of deaths from most of the EPI target diseases are now rapidly declining in the face of increased immunization coverage while neonatal tetanus deaths are not. Neonatal tetanus may soon become the number one killer among EPI diseases in some countries the report added.

The thirty-eight session of the WHO Regional Committee for Africa in their resolution of (AFR/FC/R) September 1988 noted that the main factors that will reduce the incidence of neonatal tetanus are immunization of women of child-bearing

age, especially pregnant women, with tetanus toxoid, and the quality of health care during the ante-natal delivery and neonatal periods. They also agreed that strengthening of immunization strategies in order to reach all women of child-bearing age will have an immediate impact on the incidence of neonatal tetanus, thereby making it possible to envisage its elimination. On the basis of these reports and agreement, the committee urged member states to take up the challenge to eliminate tetanus in the Region and also to adopt the goal of reducing the incidence of neonatal tetanus to less than one case per 1,000 live births by 1991 and to zero by 1995. The committee also requested the Regional Director to evolve a strategy for neonatal tetanus elimination that can be implemented and maintained over a long period of time by the member States.

The Technical Group meeting of WHO/UNICEF (1987) in their deliberations on neonatal tetanus noted that the disease remains an important and neglected problem in many countries of African Region. They estimated that 210,000 deaths due to neonatal tetanus occur annually in this region and that neonatal tetanus remains the second leading killer of children among the EPI targeted diseases after measles. According to the report, in 1986, only 21 per cent of countries of the African Region were reporting routinely neonatal tetanus.

They noted that while there is a need to improve and expand ante-natal and delivery services, control of neonatal tetanus cannot only rely on this strategy and so they concluded that urgent acceleration to improve immunization coverage is needed.

Bassiouni (1988), reported that acceleration campaigns have often omitted tetanus toxoid for women. In his view, tetanus toxoid coverage lags behind that of other vaccine almost everywhere and it is generally difficult to reach pregnant women and women within the child-bearing age vaccinate them. According to WHO, (1988), immunization is one of the most powerful and cost-effective weapons of diseases prevention, yet remains tragically under-utilized. It added that in the developing world today, six children die and another six become disabled with each passing minute because of the lack of availability of immunization. The report added that diseases such as neonatal tetanus and poliomyelitis which have been virtually eliminated in most developed world continue to take a horrible toll in the developing world.

Henrich et al (1973), observed that the incubation period for tetanus varies ranging from a few days to three weeks between incubation of the spores and the initial clinical manifestations. In their view, the incubation period is generally related to injury sites. The incubation period of

tetanus in injuries farther away from the central nervous system takes longer time than for those closer to the central nervous system. They further noted that tetanus is more severe when it occurs at either extremes of life. In their view, the case fatality ratio for elderly patients (over 70 years of age) is above 60 per cent, and approaches that for neonatal tetanus. They stressed that where children and young adults comprise the majority of cases, mortality may be considerably reduced, ranging from 15 to 30 per cent. Further they explained that the length of time between the injury which introduces tetanus spores into the body and the onset of symptoms also determines the extent of severity. Those cases with clinical manifestations occurring one week or less after injury are frequently more severe and have higher fatality ratio, they added.

World Health Organization (1988) stated that significant level of protection are achieved with two doses of tetanus toxoid, but that the ideal would be for all women of child-bearing age to have received five doses of tetanus toxoid with the proper interval between doses and before the first pregnancy. Further it affirmed that protective levels of anti-body in the mother guarantee protection of her new baby, since tetanus antibody easily passes from mother to her foetus across the placenta.

Mandel et al (1990) recommended that the primary series of tetanus toxoid for adults consists of three doses; the first and second doses are given 4 to 8 weeks apart, and the third dose are given at 12 months after the second. A booster dose is required every 10 years and may be given at mid-decade ages 34, 45 and so on. Mandel et al and WHO's recommendations seem to agree, the difference is that while WHO's emphasis was on the protection of women within the child-bearing age and pregnant women, Mandel et al highlighted the protection of everyone.

A report from UNICEF, Health Section (1989) agreed that an effective vaccination is the surest way to stem infant and child mortality yet at present no more than 25 per cent of Nigeria's under-five and expectant mothers have been reached and so the country continues to be having high infant mortality rate. It further observed that for the millions of naira Nigeria has spent on the EPI, at most one out of every 5 children, and one out of ten pregnant women have been vaccinated.

In a similar vein, Federal Republic of Nigeria (1989) observed that UNICEF 1989 Data showed that only 12 per cent of pregnant Nigerian women received anti-tetanus vaccination while the remaining 88 per cent were exposed. The report

added that hospital figures form only a very negligible proportion of all cases of neonatal tetanus and so many more than quoted become infected. The cause of low coverage and under-reporting of neonatal cases was attributed to the fact that about two thirds of Nigerians have no access to health facilities and so majority of new born are delivered away from these facilities into the cold embrace of neonatal tetanus.

World Health Organization (1988) stressed that although few countries have made notable progress in controlling neonatal tetanus, coverage of pregnant women in developing countries with two or more doses of tetanus toxoid is less than 20 per cent. It emphasized that coverage is consistently low in all countries where neonatal tetanus remains an important public health problem. Further, it stated that since 1984 coverage of pregnant women with two or more doses of tetanus in the developing world (excluding China) has only increased from 12 per cent to 17 per cent while coverage with three doses of polio vaccine over the same period has increased from 48 per cent to 58 per cent.

The central theme of all the report on tetanus toxoid coverage is that there is a general low coverage of the vaccine. In realization of this, the WHO Regional Committee for Africa (1989) recommended elimination of neonatal tetanus

through anti-tetanus immunization with an effective vaccine, observance of asepsis for the umbilical cord and monitoring neonatal tetanus incidence. The committee stressed that this is the priority strategy for the Region and a pre-requisite for eliminating neonatal tetanus particularly in rural areas. They went further to recommend that by 1995 all countries in the Region should achieve a tetanus immunization coverage greater than 85 per cent with at least two doses of tetanus vaccine for women of child-bearing age including pregnant women. This strategy, they noted, if implemented will protect 85 per cent of new born children against neonatal tetanus at birth. They further revealed that in order to attain such a high level of tetanus immunization coverage rapidly, advantage must be taken of all contacts with women of child-bearing age, including pregnant women with a health service in order to check on their immunization situation and to immunize them at that time if necessary.

2:5 Group as a Working Strategy

World Health Organization (1988) defined group as a collection of two or more people who have a common interest. In the views of Shaw (1976) a group is a collection of two or more persons who are interacting with one another in such a manner that each person influences and is influenced by each other. Buttressing the previous definitions, Burton and Dimbleby (1988) held the view that "a group is two or more individuals in face-to-face interaction, each aware of his or her membership in the group, each aware of the others who belong to the group, and each of their positive inter-dependence as they strive for mutual goal. From the different definitions, it appears that for an association to be termed a group, there must be inter-personal interaction, perception of membership, inter-dependency, mutual goal and influence.

Philips and Erickson (1970) noted that people who feel a common concern about a problem use groups to devise a solution for or take some action on the problem. They also stressed that groups are used by established organization, companies, schools and so forth, to deal with problems as they arise on a regular basis. In addition, they observed that groups may also be used to prepare implementation plans for previously designated programme or policies.

World Health Organization (1988), observed that a formal group has a purpose or goal that everyone in the group knows, accepts, and tries to achieve by working together with the others. There is also a set of membership, so people know who belongs and who does not. In addition, formal group has an organized leaders and activities such as regular meetings and projects. It also noted that a group has rules that members agree to follow and attention is paid to the welfare of the members. An informal group, according to the report is like the people attending market on a particular day. It further noted that people in an informal gathering have some feature in common, but no special goal that they are trying to achieve together.

Further, the report made it clear that formal groups exist in order to accomplish two major needs namely: the need to accomplish a task and the need to belong. It is noted from the document that a group is successful if it can meet both of these needs for its members. In its opinion, if a group can never solve a problem or plan a programme, members will lose interest and leave. Similarly, if people in the group are not friendly, always argue or ignore the welfare of other members, there will not be much feeling of belongingness. The document concluded that a successful group will make people feel welcome and at the same time accomplish tasks in a cooperative way.

The groupness of a group has been defined in various ways through world cohesiveness. Barker et al (1983) defined cohesiveness as the complex of forces which bind members of a group to each other and to the group as a whole. Further, they noted that cohesiveness primarily has been measured by inter-personal congeniality (e.g. friendliness, acceptance of each others' ideas etc) and the desire to remain a member of the group. They also revealed that researchers have related cohesiveness to variables such as a sense of responsibility, communication among group members, and readiness of group members to be influenced by the group. They emphasized that individuals who are attracted to a group usually engage in responsible activity (e.g. participate more readily, attend meetings more regularly). In addition, such group tend to be more willing to listen to others and be more accepting to the opinion of others. Similarly, cohesive groups appear to be more productive than other groups when group value is placed on accomplishing the task, they added.

Study by Hernack and Fest (1964) has shown that groups to which individual belongs exert influence on the individual's behaviour. The cause of this influence is that the "group pressure" exert force on each member which makes conformity to the norms, goals and decisions of the group very high. While

viewing the influence of groups on their members, Philips and Erickson (1970) observed that when one is committed to membership in a group there is no way to escape pressure to conform to whatever norms the group has established. They also noted that the intensity of one's commitment to a group will tend to determine the degree to which the individual conforms with the standards of behaviour of the group. They further explained that a group that satisfies a great number of an individual's needs will very likely influence many of the individual's personal behaviours and so the stronger one feels about the importance of the group, the more likely the individual conforms to that group's demand.

Uche (1978) reported that Chinese have used groups to generate social pressure and applied it to the restructuring of economic, cultural and family relations and indeed to every process of a changing social system. He further stressed that the groups have become local engines that run their own fuel as it were, through the social pressure the members themselves generate by inter-personal communication within the group setting. He therefore concluded that group is a crucial part of society and that it is an essential mechanism of socialization and primary source of social order. He pointed out that people derive their values and attitudes largely from the groups with which they identify.

Johnson and Johnson (1987) noted that some factors are necessary for a group to perform well. These factors they referred to as "Dimensions of group effectiveness" In their view, for a group to be effective, the group goals must be clearly understood, be relevant to the needs of group members and evoke from every member a high level of commitment to their accomplishment. Similarly, group members must communicate their ideas and feelings accurately and clearly. In addition, appropriate decision-making procedures must be used flexibly if they are to be matched with the needs of the situation, they added.

Several scholars have looked into the merits of group actions as against individual. Among such documents was that from WHO (1988) which noted that working with groups is a major activity in health education. When people get together to identify, define and solve a problem, they have many more resources than when they work individually. Further, it added that groups can do things that several individuals could not do by themselves. In its view, groups support their members in the practice of health behaviour and also enable people learn from each other.

Barker et al (1983) believed that groups generally are more efficient than individuals in the recall of information

as well as make correct or accurate responses more often than individuals. In addition, they noted that fewer errors in judgement will be made by groups than by individuals and that the behaviour of other persons serves as a source of cues or information about what behaviour is permissible or desirable. They also stressed that working together in a group may represent a source of comfort or support for the group members.

Bureau of International Narcotics Matters (1988) emphasized that campaign that involve groups achieve advantages like: increased credibility, increased reach and increased resources. The foregoing appears to buttress the need to involve group activity in tetanus toxoid information dissemination as well as to educate programme recipients in groups rather than singly.

Johnson and Johnson (1987) discussed the psychological benefits of group under social support, self-esteem and psychological health. Under social support, they emphasized that we require others to meet our needs. In addition, they stressed that evidence of deleterious effects of isolation and the loss of important people in our lives reinforce the conclusion that relationships are critical to our well-being. They further explained that social support is the exchange of

resources intended to enhance mutual well-being and the existence, encouragement, acceptance and caring. The social support system they noted included significant others who collaboratively share people's tasks and goals, who provide individuals with resources that enhance their well-being and or help them deal with the particular stressful situations to which they are exposed, and who help people mobilize their psychological resources in order to deal with their problems.

Self-esteem they described as judgement about one's self-worth, one's competence or value, based on a process of conceptualizing and gathering information about oneself and one's experiences. In their view, border level of self-esteem and the process through which self-esteem is determined are derived through relationships and interaction with others. On the issue of psychological health and stability, they observed that it is the ability to be aware of an manage effectively one's collaborative relationship with others. In their opinion, it is through membership in groups such as family, peer group, educational settings and career organizations that a person develops.

The common feature in the reports from WHO, Barker et al; Bureau of International Narcotics Matters and Johnson is that all give credence to group than individual activities. All

the reports emphasized the importance of support which groups provide to their members except report from Bureau of International Narcotics Matters. It is only the report from Bureau that revealed that information from group is seen as more credible than that from individual. The uniqueness of this report could be from the fact that it focussed on awareness campaign.

While discussing the importance of social pressure in accomplishing a goal, Kin Caid and Yum (1978) noted that the mother's club in Korean Village were able to legitimize their club, provide them for the first time with an open forum in which family planning and other mutual problems could be freely discussed. Their activities showed that the adoption of family planning may be more readily accomplished by a collective, group decision, rather
than a private, individual decision. They further revealed that due to the enthusiasm generated by group members, the women dug each hole 100 centimeters deep in the still-frozen hillside, even though 60 centimeters would be enough. In addition, they expected that the planting of 2,000 trees would require at least two days, but they were so eager that they finished in one day. They noted also that the achievement of the club as a result of zealous effort of the group was so

amazing that people in the surrounding villages could not believe such a feat was possible.

The report from Kincaid and Yum appears to suggest that group would play more effective role in influencing people's behaviour through their ability to induce people to overcome obstacles or situations that might work against the practice of a desired behaviour.

Barker et al (1983) recommended that in passing information to a group, the information disseminator should organize the materials to be presented to the group in an orderly fashion; and if possible, duplicate the outline of the main ideas and the most relevant information and disseminate the materials to group members before discussion begins. In addition, the information disseminator should avoid the use of emotional language when transmitting information to the group. Opportunity should be provided for group members to ask questions on the information while it is being presented. Barker et al's recommendation appear to be a helpful hint to the researcher in the orientation programme of the BLP as well as useful to the information disseminators during information dissemination period of the project.

Green (1978), recommended social group interaction as the best communication channel. He advised that reliance must be

laced on personal contact, group discussion, onversation, and presentation at social gatherings.

Similarly, Akpan (1987) affirmed that experiments in roup viewing have shown that human behaviour is more usceptible to change when efforts are made to change group ehaviour rather than individual behaviour. Furthering the roup behaviour change, Anyanwu (1987) asserted that social roups whether formal or informal are important catalysts for doption of innovations. He stressed that since social groups re composed of people who associated more with each other han with outsiders, they are in position to influence nformation communication.

Okonkwor (1987) observed that most rural communities in igeria have one or more organized social groups such as omen's groups, mothers' club, social clubs, self-help ommittee and the like. He added that what the country has one is to accord these groups only a modest role even in the issemination of information and has paid no attention to heir potential in facilitating group decision-making and egitimizing decision through consensus.

Supporting Okonkwor, WHO (1985) pointed out that women an play important role in promoting health, particularly in iew of their central role in the family. The organization

therefore recommended the use of women-folk in the execution of any health programme.

Ekwelie (1987) while comparing the effect of influential people in the community (such as a group) as against mass media in persuasion stressed that the influence of other people on specific decision tend to be more frequent and certainly more effective than the influence of the mass media. According to him, influential people are normally close associates of the people they influence because they all share common socio-economic and ethnic values. In his view, intimates associates tend to hold common opinions and attitudes and are reluctant to depart from these even if the media call for changes in these attitudes and opinions. He also pointed out that the creation of enough interest calls for both proximity and message bombardment, the types the mass media are not equipped to provide.

2:6 Factors for Effective Communication

Weiss and Kessel (1987) advised health professionals to always keep their audience in mind, write in clear, concise manner, use the audience vocabulary and to avoid professional jargon when communicating to their clients. They further affirmed that these skills will allow the health professionals to make use of mass media as a powerful means of reaching the

public with accurate, high quality and understandable health information.

Okigbo (1987) identified three components of communication, namely; the audience, the message and the channel. He advised that the audience in any communication should be specified, and if possible stratified into segments depending on their biographic, psychologic and geographic characteristics. He was of the view that the message should be tailored to meet the specific needs of the audiences and the channels should not only be centered on all persuasion; and these two fundamental elements they referred to as audience analysis and rhetorical strategy. Barker et al (1983) emphasized that when the group's goal is persuasion, the need to adapt messages to the audience's perspective is even more critical, as the persuader not only wants understanding of the message but he or she also wants specific action on the part of audience members.

According to Mndzebele (1988) the significant aspects assessment, audience involvement, medium requirement, feed-back and follow-up or evaluation. Barker et al, Mndzebele and Okigbo hold similar views. In their consideration, each emphasized objectives or need or message being in line with audience's needs and passed to the audience through appropriate channel.

Umeh (1987) stressed the importance of language, accessibility and timing in any communication. He stated that the message must be communicated in the language that can be understood by the people. He buttressed this idea by emphasizing that communication can only be effective and initiate desired behaviour when it is understood by the receiver. He was of the opinion also that the communication channel to be used must be the one that is accessible to majority of people in the community. He further advised that the timing of the programme should suit the convenience of the audience or target population. Umeh's emphasis on effectiveness of communication is on the audience unlike Okigbo and Mndzebele who included message and channel in their own consideration. One common factor in all the views is that each author sees the audience as a central point in the communication process. Sachramm (1965) held the view that any campaign must be based on understanding of the life, beliefs and attitudes of the villagers and the social factors that helped to determine how they lived. Secondly, provision of face-to-face communication should be by field workers who understand the dynamics of social change in the village. Further, he stated that mass media should be used to support the work of the field workers. Although Sachramm considered the audience as a central focus in the communication process as others but his emphasis

deferred in that he more or less considered the audience from the socio-cultural point of view.

According to Nwamoh (1987), the recipient's understanding of the message being communicated does to a great extent influence the outcome of the desired behaviour. He later advised that the message bearer should understand and consider the verbal ability of his audience, the visual and audio perception skills of the people. Also to be considered is the experience, intelligence, motivation, personality and special skills of the audience, he added. Weiss and Kessel (1987) and Nwamoh (1987) equally stressed on the clarity of language, thereby showing its importance in communication.

Nwogu (1988) stressed that the effectiveness of communication is determined by the ability of the communicator to produce the message at suitable time and when needed as well as make the message brief and direct to the point. Another factor he emphasized was the ability of the communicator to present the message in an interesting and motivating manner and being able to use clear and simple language.

Commenting on the effectiveness of communication, Green (1978) opined that any method of communication used should be acceptable to the particular group, convenient in terms of

time demand; efficient in terms of fixed cost, continuing costs, space and maintenance requirements as well as in terms of staff and time needs in order to convey a message. He also maintained that the method of communication should be effective in communicating message, arousing attention and interest, promoting interaction, suitable for repetition and message retention. He also emphasized that the method should encourage desired attitudes and adoption of principles.

Acceptability of any mode of channel of communication used has been emphasized as very essential by Nwamoh, Weiss and Kessel, Nwogu and Green. They generally emphasized that the acceptability depends on appropriate timing, clarity of language, suitability to the social and cultural context of the people and ability of the message to motivate and arouse interest.

Similarly, Sexton (1970) asserted that the first pre-requisite for effective communication in any situation is to get the receiver's or audience attention. According to him, in order to secure the audience attention, the message should be presented at the right time and place using the acceptable mode and language. Heshmat (1965) outlined three conditions under which communication can be made effective. He said that the number of messages flowing from source to

destination should be appropriate. Second, the availability of the communication channel to the intended audience. He further stressed that dissemination of information by was of television will produce low effect if ownership of television or access to them is very limited in the community, as often found in rural areas. In addition, he said that the messages sent through any particular channel should attract the attention of the audience and arouse interest. He buttressed this idea by saying that a poster displayed in every bus in the city might not succeed in conveying information if it is either too small to be noticed or not interesting enough to hold the attention of the people.

Barker et al (1983) highlighted that research findings have revealed that greater homophily between source and receiver leads to increased accuracy of message transmission between source and receiver. They therefore concluded that the implication of the research findings for a group attempting to diffuse information to an audience is for the group to maximize the degree of homophily between it and the audience to whom information is to be presented. They further added that since it is not always possible for group members to share characteristics with audience members to whom they present information, an attempt should be made to present

the information in a manner consistent with the audience's background and expectation. They also gave the example of how to increase homophily as to relate the group's information about the discussion topic to similar information or attitudes which the audience already has.

The authors discussed in this section generally held the view that for a message to be effectively communicated, the message should be:

1. targeted to suit the audience in terms of meeting their needs, arousing their interest and attention;
2. channelled through the accepted mode of communication;
3. the bearer should possess and use appropriate communication skills such as have full knowledge of the message, consider the socio-cultural context of the audience; use appropriate language; motivate interest and attention;
4. the message should be presented at a suitable time, place and as at when needed;
5. the message should be repeated and feedback evaluation;
6. the communication channel used should be available and accessible to the group; and
7. the message should be presented in a manner that is consistent with the audience's background.

2:7 Obstacles to Effective Communication

Many authors have expressed their views regarding the factors militating against effective communication in general and these may also be applicable to communication in EPI services. Among such scholars were Ume-Nwagbo (1987) who stated that the uncompromising shortage of radio and television sets are the major drawbacks. Another inhibiting factor he mentioned was widespread unavailability of electricity in the rural areas. He further mentioned individual differences, the social differences, the social relationships; the cultural norms and the reciprocal media effects perspective as the variables that affect communication. In addition, Green (1978) Freimuth and Marron (1978) equally noted the hinderance created by unavailability of electricity and inadequate radio and television in the rural areas in mass communication. Consequent upon these, they recommended interpersonal communication as more appropriate means of reaching the rural population. Gibson (1979) observed that there are some taboos against discussion on certain health subjects in the public and these create obstacles to effective communication. Other obstacles he observed are differences in languages between the communicator and his audience, some medical terms which could be difficult

to translate satisfactorily into every day work in a vernacular language and incomprehensible medical jargon.

Supporting Gibson's view, Kentopp and Zanger (1981) identified two variables that constituted problems in effective communication. Among these variables were culture and accessibility. They held the view that women as the under-privileged, are often not reached by the media. They pointed out that the sheer amount of work many of them have to get through in a day leaves them little time to relax and listen to the radio or read magazines, even if they can afford them. Further, they stressed on problem created by cultural practices which determined what women may or may not do. They cited example of India where in some villages the culture prohibited the women from attending public discussion or listening to club radio. They concluded therefore, that the mass media catered mainly for the masculine interests and that their failure to reach women with health information that is of benefit to them and their community represented a valuable opportunity lost which will also affect effectiveness of the media.

Ademuwagun (1977) agreed that one major mistake often made by health personnel is the assumption that the patient is the sole target of health education. He said that the

personnel forget most often the fact that the patient is only one of the many factors involved in the behavioural response to health intervention. He emphasized that the individual's decision regarding acceptance or rejection of any information may be influenced by circumstances around him. The circumstances around the individual may be those ones mentioned by Umeh-Nwagbo (1987) earlier.

On a similar note, Kar (1970) stressed that naturally, a change in health behaviour is a function of multiple factors. He believed that knowledge and attitude changes are not always sufficient to result in a behaviour change but rather certain situational and environmental factors are equally important determinants in the ultimate change of behaviour.

Study by Dubey and Dergan (1969) concluded that people who had a felt need and aware of the available health measures, but at the same time are apprehensive about ill consequences of a recommended health measure, behaviour change need not occur. They further stated that in such a situation, communication of the positive attributes of a health measure is not likely to initiate a behaviour change. This view is similar to what Kar (1968) referred to as socio-psychological determinants in which he said that the acceptance of vaccinations against small pox indicated that several

respondents thought that vaccination prevented diseases other than small pox, such as chicken pox, measles and cholera. Some believed that the vaccine was two strong and may cause serious ill-effects among the children.

Highlighting the problems hindering effective communication Ighor (1988) revealed that there is difficulty in "setting measures" to all the communities at the same time with the same effect. He further stated that the ratio of the field worker to the rural people is still inadequate and as a result there is a social distance between the field worker and the rural people because visits to communities become rare. In addition, he mentioned that most of their field workers have poor oral communication ability with the result that they create bottlenecks for themselves in the field.

2:8 Summary of Literature Review

Consistency theory in conjunction with Reinforcement theory explains why people pay attention to information that is rewarding and avoid those that are non-rewarding. The role of effective communication in achieving the objectives of EPI is shown through its ability to create awareness on the availability, need and scheduling of the programme. It was also observed to help in educating, persuading and motivating people's interest to proper use of the resources available thus leading to increased EPI Coverage.

Neonatal tetanus which was noted to be highly fatal,

occurs mainly in children born to unimmunized or inadequately immunized mothers or unprotected children whose umbilical cords are treated with conterminated instrument. An effective way of preventing the disease is to vaccinate all pregnant women and women within the child-bearing age with adequate dose of tetanus toxoid. Since the coverage rate of eligible women with the anti-tetanus vaccination was observed to be very low, there was an urge to intensify efforts in controlling and eradicating the disease.

Cohesiveness was seen as the binding force within a group and it determines the degree of the group conformity to the norms, goals and decision of the group. Credence was given to group approach in behaviour change because information from group has increased reach and regarded as more credible. Group is also more influential in persuading people to change through its ability to give the necessary clue and support in the practice of new behaviour.

It was a general consensus that for a message to be effective, it must be clear, precise, direct to the point as well as being delivered at suitable time and to the appropriate target audience. It was observed that effective communication is hampered by socio-psychological factors such as differences in language, cultural taboos, situational and environmental factors and inadequate number of field workers.

CHAPTER THREE

M E T H O D O L O G Y

3:1 Introduction

This chapter presents the method used for collecting and analyzing the data collected towards achieving the purpose of the study. The chapter is organized under the following headings:

3:2 The Research Design.

3:3 The Study Area.

3:4 Population for the Study.

3:5 Construction and Development of Instrument.

3:6 Validation of Instruments.

3:7 Reliability of Instrument.

3:8 Orientation of Research Aides and BLP.

3:9 Diffusion of Tetanus Toxoid Information.

3:10 Method of Data Collection.

3:11 Method of Data Analysis.

3:2 The Research Design

The study design is quasi experimental. This design is aimed at comparing the efficacy of BLP and EPI groups with respect to diffusion of tetanus toxoid information through inter-personal communication.

3:3 The Study Area

The areas for the study were Okpofe in Ezinihite and Akabo Ahiazu Local Government Areas in Imo State. Each of the two communities is made up of eight villages and the projected population of the eligible women for the study were 320 in Akabo and 309 in Okpofe. Each of the two communities has only one centre for immunization. In Akabo, the centre is Ihenweorie Health Centre and Immunization is carried out every Tuesday from 8 a.m. to 2 p. m. while in Okpofe, the centre is Okpofe Health Centre and Immunization is every Thursday and at the same time with Akabo.

3:4 Population for the Study

The population for this study was made up of pregnant women and women within the child-bearing age (15-44 years) in Akabo Ahiazu and Okpofe Ezinihite communities in Imo State.

The pregnant women and women within the child-bearing age were the group of women defined eligible for tetanus toxoid immunization under EPI programme by WHO (1988) and are therefore covered in the study. They were also the target audience for the tetanus toxoid information being disseminated by the EPI and BLP groups.

Data collected from Primary Health Care (PHC) Division of State Ministry of Health, Owerri (1991) had the projected

population of the target group in Akabo and Okpofe as 320 and 309 respectively. All the women that fell within the target group were included in the study. On the whole, 629 women were expected to attend the immunization exercise.

3:5 Construction and Development of Instrument

Two types of instruments were developed (a) Test Instrument (b) Orientation handout.

The test instrument was designed by the researcher based on the information gathered from review of library and records, key informants and general experience of the researcher. The items in the questionnaire were designed to elicit information on the respondents' knowledge about tetanus toxoid.

In preparing the orientation handout, the researcher first considered the task which the orientation was supposed to equip the information disseminators. The tasks were as follows:

To recognize

(a) the disease covered by EPI programme;

(b) the cause of tetanus germ;

(c) the susceptible host to the disease;

(d) mortality rate of neonatal tetanus;

(e) mode of transmission of tetanus;

(f) preventive measures;

(g) EPI target group for tetanus toxoid vaccination; and

(h) the immunization schedule. With the task in mind, the specific objectives for orientation programme and the curriculum were developed (see appendices C and D).

The selection of the orientation methods was based on the nature of the content and the need to use adult education approach. Therefore the methods selected were those that favoured participants' involvement such as discussion, brain-storming, questioning and answering, demonstrations, use of stories, songs and proverbs were also used to make the session relevant to the local culture.

The content of the orientation lesson determined the teaching aids used. The posters and charts used were collected from EPI Unit, Onikan Health Centre, Lagos. The teaching aids were time tested teaching aids used for giving anti-tetanus immunization talks. The handouts were written by the researcher using relevant text books as guides. Both instruments had both Igbo and English versions.

3:6 Validation of the Instruments

After construction, the pre/post test instrument was translated into Igbo by an expert.

Face and content validity of the instruments were carried out by four experts. Two research experts from Ogun State University, a Communication and a Health Education experts

from Onikan Health Centre, Victoria Island, Lagos. The comments made by them were used to improve the instrument.

3:7 Reliability of Instrument

The reliability of the instrument was determined using test re-test technique, copies of the instrument were administered to a group of BLP in Amakohia in Ikeduru Local Government Area of Imo State at two weeks interval. This group was chosen because they were similar to the study group and also within the same immunization zone (but not involved in the study). It was considered that they had similar demographic characteristics as well as equivalent exposure to information on EPI programme with the study group. The data that were obtained from the two administration were correlated in order to determine the coefficient of stability using Spearman Rank Order Correlation Coefficient. The test result yielded 0.78 and this was considered high enough to serve the purpose of the study. The pre-testing result was used in improving the instrument.

Having ascertained the validity and reliability of the instruments, they were ready for administration.

3:8 Orientation of Research Aides and BLP

Prior to the commencement of the study, orientation programmes were organized for the research aides and BLP used

in the study. The researcher employed ten research aides who assisted in administering the test instruments to the BLP group during their orientation. The Research Aides were adequately briefed on their roles. They also rehearsed the administration of the instrument in order to have full command of the manner of interview presentation before the orientation of the BLP group.

Two days (30th and 31st of January) were set aside for the orientation of BLP. On the orientation day, the researcher first gave the summary of the proposed research, the relevance, role of each group of participant and specific objective to be achieved. Later she presented the lesson which dealt on tetanus and tetanus toxoid. The lesson progressed from simple to complex using a variety of teaching methods as outlined in the plan
(see appendix D). After presentation, there was questions and discussion time. This was followed by a repeat of fresh copies of the initial test instrument to determine if there was any improvement in the ability of the group to demonstrate correct knowledge of the required information after the orientation.

3:9 Diffusion of Tetanus Toxoid Information

After the orientation, the researcher met again with the EPI manager at the State headquarters and reached an agreement

that EPI staff within the area of study would not be interfered with within the period of study.

Secondly, that immunization services would be supplied during their usual time and at the respective centres within the study area. The information disseminators were also given posters, charts, handouts which they used for their work.

From 1st of February to 31st of July, the two groups disseminated information on tetanus toxoid in their respective localities unaided. Within the six months information dissemination, EPI workers provided tetanus toxoid vaccination services at their usual respective centres and at the normal time.

3:10 Method of Data Collection

Three sets of data were collected. The first two were data from the test instrument administered before and after the training. The instrument which had both Igbo and English versions were administered accordingly by the research aides. The administration was carried out under examination conditions in order to avoid responses from being influenced. The result of the tests provided a base-line information before the training regarding the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid before the orientation. The result of the test guided the training. For

instance, areas of weaknesses as revealed by the test were given emphasis during the orientation. The repeat of the administration of the test instrument determined if there was any improvement in the ability of the group to demonstrate correct knowledge of the required information after the orientation.

Hundred copies of the instrument were administered before and after the orientation of BLP group, giving a total of two hundred. All the instrument were duly filled and returned, giving a return rate of 100 per cent.

The third set of data collected was the records of attendance of eligible women to the immunization exercise. During the six months of study, the record of every eligible woman vaccinated was kept. The researcher visited the study area fortnightly to collect records of immunized women and rectified any problem that arose. Also collected was the record of eligible women that had the vaccination from August 1991 to 31st January, 1992 which was six months period prior to the intervention period..

3:11 Method of Data Analysis

Two sets of data emerged from the study:

1. Data from the pre- and post-orientation tests.
2. Data indicating the turn-out of eligible women to the vaccination before and during the intervention periods.

The data from the two sources were tallied and put into frequency distribution tables. The frequencies were converted into percentages for the purpose of description and comparison in order to answer research questions. Test of significance difference between proportions was applied to the data.

omen (100%) demonstrated correctly. Similarly, only 10 members 10%) identified diphtheria rightly as a EPI disease at the pre-rientation test. While the number demonstrating correct knowledge f it as EPI disease increased to 70 (70%) after the orientation. rom the table, it is evident that the proportions of respondents emonstrating correct knowledge of diseases covered by EPI during he post-orientation test are consistently higher than during the re-orientation test. In other words, larger percentage proportion 82.50%) of the Better Life group demonstrated correct knowledge of iseases covered by EPI after the orientation than before the rientation (45%).

TABLE 2

PERCENTAGE OF RESPONDENTS DEMONSTRATING CORRECT KNOWLEDGE OF INFORMATION ON TETANUS

Variables	Pre-Orientation Test Result (N =100)		Post-Orientation Test Result (N =100)	
	F	%	F	%
7. Cause of tetanus germ	18	18	89	89
8. Susceptibility	36	36	78	78
9. Mortality	18	18	80	80
10. Transmission	25	25	88	88
11. Prevention	46	46	90	90
12. Need for Immunization	35	35	80	80
13. Target group for the immunization	22	22	90	90
Average		28.57		85.00

CHAPTER FOUR

R E S U L T S

Presentation of Data Relating to Research Questions

Research Question 1

What proportion of the BLP group demonstrated correct knowledge of tetanus toxoid before and after orientation programme? Tables 1-4 answered this research question.

TABLE 1

PERCENTAGE OF RESPONDENTS DEMONSTRATING CORRECT KNOWLEDGE OF DISEASES COVERED BY EPI PROGRAMME

Diseases	Pre-Orientation Test Result (N =100)		Post Orientation Test Result (N =100)	
	f	%	f	%
1. Measles	50	50	100	100
2. Tetanus	51	51	89	89
3. Poliomyelitis	55	55	79	79
4.Whooping Cough	66	66	87	87
5. Diphtheria	10	10	70	70
6. Tuberculosis	35	35	79	79
Average		45.00		82.50

Table 1 presents data on the percentage of Respondents demonstrating correct knowledge of disease covered by EPI. The table shows that only 50 (50%) of BLP demonstrated correct knowledge of measles as part of disease covered by EPI during the pre-Orientation test whereas at the post orientation test all the

Table 2 presents data showing percentage of respondents demonstrating correct knowledge of information on tetanus. From the table, greater number of women 89 (89%) demonstrated correctly the knowledge of the cause of tetanus germ at the post orientation test than during the pre-orientation test (18%). The table also shows that only 46 (46%) women demonstrated rightly the most effective way of preventing tetanus during the pre-orientation test, whereas at the post-orientation, as much as 90 (90%) demonstrated correctly. On the average, 28.57 per cent of the women demonstrated correct knowledge of information on tetanus during the pre-orientation test, while at the post-orientation the average rose to 85 per cent. This suggests that larger proportion of the women are more knowledgeable of information on tetanus after the orientation than before the orientation.

TABLE 3

PERCENTAGE OF RESPONDENTS DEMONSTRATING CORRECT KNOWLEDGE OF TETANUS TOXOID ADMINISTRATION

Doses	Pre-Orientation Test Result (N =100)		Post-Orientation Test Result (N =100)	
	F	%	F	%
14. 1st	18	18	80	80
15. 2nd	22	22	78	78
16. 3rd	2	2	82	82
17. 4th	4	4	77	77
18. 5th	1	1	65	65
Average		9.40		76.40

Table 3 presents data on percentage of respondents demonstrating correct knowledge of tetanus administration. From the table, it is observed that only 2 (2%) women demonstrated correctly the appropriate time of administering the third dose of tetanus toxoid during the pre-orientation test, while at the post-orientation test, the number increased to 82 (82%). The table also show that only one person (1%) demonstrated correctly the appropriate time to administer the fifth dose of tetanus toxoid but 65 (65%) women rightly demonstrated in the post-orientation test. In summary, an average of 9.40 per cent of the women demonstrated correct knowledge of appropriate time of administering each dose of tetanus toxoid during the pre-orientation test while during the post-orientation test 76.40 per cent of the women demonstrated correctly. This means that larger proportion of the women are more aware of the appropriate time of administering each dose of tetanus toxoid after the orientation than before the orientation.

TABLE 4

PERCENTAGE OF RESPONDENTS DEMONSTRATING CORRECT KNOWLEDGE OF DURATION OF PROTECTION OF EACH DOSE OF TETANUS TOXOID

Doses	Pre-Orientation Test Result (N =100)		Post-Orientation Test Result (N =100)	
	F	%	F	%
19. 1st	2	2	70	70
20. 2nd	6	6	84	84
21. 3rd	2	2	69	69
22. 4th	3	3	60	60
23. 5th	1	1	72	72
Average		2.80		71.00

Table 4 presents data on percentage of respondents demonstrating correct knowledge of duration of protection of each dose of tetanus toxoid. From the table, it is evident that only two (2%) members of the group demonstrated correct knowledge of duration of protection of first dose of tetanus during the pre-orientation test as against 80 (80%) that rightly demonstrated during the post-orientation test. In the same vein, only one (1%) person correctly demonstrated the knowledge of duration of protection of the 5th dose in the pre-orientation test whereas during the post-test, the number rose to as high as 72 (72%). On the average, 2.80 per cent of the women demonstrated correct knowledge of duration of protection of each dose of tetanus toxoid

in the pre-orientation test, while the average increase to 71% per cent during the post test. In other words, more proportion of the women are more knowledgeable of duration of protection of each dose of tetanus toxoid after the orientation than before the orientation.

Research Question 2

Is there any difference in the adoption rate of tetanus toxoid immunization between the proportion of eligible women who received the information from the EPI group and those who got similar information from the BLP group? Table 5a and 5b answered this research questions.

TABLE 5a

THE TURN-UP FOR TETANUS TOXOID IMMUNIZATION IN IHENWEORIE HEALTH CENTRE (THE EXPERIMENTAL COMMUNITY) FROM FEBRUARY TO JULY 1992

Months	Old Cases	New Cases	Total
February	16	60	70
March	45	34	79
April	40	38	78
May	38	42	80
June	40	38	78
July	35	42	77
Total 6	214	254	468

TABLE 5b

THE TURN-UP FOR TETANUS TOXOID IMMUNIZATION IN OKPOFE HEALTH CENTRE (THE CONTROL COMMUNITY) FROM FEBRUARY TO JULY 1992

Months	Old Cases	New Cases	Total
February	15	11	26
March	13	12	25
April	12	14	26
May	10	14	24
June	11	14	21
July	6	15	21
Total 6	67	80	147

Table 5a and b present data on the turn-up for tetanus toxoid munization in Ihenweorie Health Centre (The experimental mmunity 5a) and Okpofe Health Centre (the control community 5b) spectively within the specified periods. From data in table 5a, is evident that 254 (79.38%) new eligible women out of the timated 320 expected turned up for tetanus toxoid immunization ring the six months of experiment whereas in the control mmunity (table 5b), only 80 (25.89%) new eligible women out of e estimated 309 expected turned up for the immunization during e same period. The data shown in the two tables, suggest that ere is a difference in the adoption rate of tetanus toxoid munization between the eligible women who received the

information from the EPI group and those who got similar information from BLP group. The eligible women that got the tetanus toxoid information from the BLP group responded higher to the immunization than those that got similar information from EPI group.

Research Question 3

Is there any difference in the records of proportion of attendance of eligible women to vaccination before and within the intervention periods?

Tables 5a and 6a; and 5b and 6b answered this research question.

TABLE 6a

RECORD OF ATTENDANCE FOR TETANUS TOXOID IMMUNIZATION IN IHENWEORIE HEALTH CENTRE FROM AUGUST 1991 TO JANUARY 1992

Months	Old Cases	New Cases	Total
August	13	12	25
September	14	12	26
October	13	11	24
November	10	12	22
December	14	6	20
Total 6	77	65	142

Table 6a presents data on record of attendance for tetanus toxoid immunization in Ihenweorie Health Centre for the period of six months prior to the study.

From table 6a, it is observed that only 65 (20.31%) out of 320 estimated eligible women turned-up for tetanus toxoid immunization within the six months prior to the study, as against 254 (79.38%) shown in table 5a that turned-up within the said six months of the study. In essence, there is a difference in the record of attendance of eligible women to vaccination before and within the intervention period at the experimental community. More eligible women turned up for tetanus toxoid immunization during the experimental period than before the experimental period.

TABLE 6b

RECORD OF ATTENDANCE FOR TETANUS TOXOID IMMUNIZATION IN OKPOFE HEALTH CENTRE FROM AUGUST 1991 TO JANUARY 1992

Months	Old Cases	New Cases	Total
August	11	12	23
September	13	14	27
October	14	12	26
November	12	15	27
December	10	15	25
January	13	13	26
Total	73	81	154

Table 6b presents data on record of attendance for tetanus toxoid immunization in Okpofe Health Centre from August 1991 to January 1992. The table shows that 81 (26.21%) out of 309 estimated eligible women were recorded as having immunized within

the period specified; as against 80 (25.89%) shown in table 5b that turned-up between February to July 1992. This suggests that the difference between the two periods of records is just one person (0.32%). One can rightly say that there is no appreciable difference in the two records of attendance. In essence, about the same number of eligible women responded to tetanus toxoid immunization in the control community before and during the experiment.

Presentation of Data Relating to Research Hypotheses

Hypothesis I

There is no significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid information before and after orientation programme.

The data relating to the above hypothesis are presented in tables 7 to 10 (for details see Appendix I).

TABLE 7

TEST OF SIGNIFICANT DIFFERENCE BETWEEN PROPORTIONS OF BLP DEMONSTRATING CORRECT KNOWLEDGE OF DISEASES COVERED BY EPI PROGRAMME

EPI Disease	Pre-Orientation Test Result (N =100)		Post-Orientation Test Result (N =100)		SD t-cal error	Decision
	P1	Q1Q1	P2	Q2		
Measles	0.50	0.50	1.00	0.00	0.05 -10.00	Reject
Tetanus	0.51	0.49	0.89	0.11	0.06 - 6.33	Reject
Poliomyelitis	0.55	0.45	0.79	0.21	0.07 - 4.40	Reject
Whooping Cough	0.66	0.34	0.87	0.13	0.06 - 3.00	Reject
Diphtheria	0.10	0.90	0.70	0.30	0.05 -12.00	Reject
Tuberculosis	0.35	0.65	0.79	0.21	0.06 - 7.33	Reject

T - table at 0.05 level of significance and 198 df = 1.96.

P = Proportion of the first set of the sample with the trait.

P = Proportion of the second set of the sample with the trait.

q = Proportion of the first sample without the trait.

q = Proportion of the second set of the sample without the trait.

Table 7 presents the result of t-test for the significance of difference between proportions of the Better Life group that demonstrated correct knowledge of diseases covered by EPI programme before and after the orientation. In each case, the calculated t-value is greater than the table value. Hence there is a

significant difference between proportions of the Better Life group that demonstrated correct knowledge of EPI diseases before and after the orientation. Greater proportion of the women demonstrated correct knowledge of the diseases covered by EPI programme after the orientation than before the orientation. Hence more women after the orientation had better knowledge of the diseases than the case before the orientation.

TABLE 8

TEST OF SIGNIFICANT DIFFERENCE BETWEEN PROPORTIONS OF BLP DEMONSTRATED CORRECT KNOWLEDGE OF INFORMATION ON TETANUS

Variables	Pre-Orientation Test Result (N =100)		Post-Orientation Test Result (N =100)		SD Error	T-Cal	Decision
	P	Q	P	Q			
Cause of Tetanus germ	0.18	0.82	0.89	0.11	0.05	-14.20	Reject
Susceptibility	0.36	0.64	0.78	0.22	0.06	- 7.00	Reject
Mortality	0.18	0.82	0.80	0.20	0.06	-10.33	Reject
Transmission	0.25	0.75	0.88	0.12	0.05	-12.60	Reject
Prevention	0.46	0.54	0.90	0.10	0.05	- 8.80	Reject
Need for Immunization	0.35	0.65	0.80	0.20	0.06	- 7.50	Reject
Target group for the immunization	0.22	0.78	0.90	0.10	0.05	-13.60	Reject

t-table at 0.05 level of significance 198 df = 1.96.

Table 8 presents the result of t - test for the significance of difference between proportions of women demonstrating correct knowledge of information on tetanus before and after the orientation. It is evident from the table that the calculated t-value is consistently greater than the able value of 1.96 at 0.05 level of significance. Hence the null hypothesis of no difference is rejected in each case. There is a significant difference between the proportions of the Better Life group that demonstrated correct knowledge of information on tetanus before and after the orientation. Greater proportion of the women demonstrated correct knowledge of information on tetanus after the orientation than before the orientation.

TABLE 9

TEST OF SIGNIFICANT DIFFERENCE BETWEEN PROPORTIONS OF BLP GROUP DEMONSTRATING CORRECT KNOWLEDGE OF TETANUS TOXOID ADMINISTRATION

Doses	Pre-Orientation Test Result (N =100)		Post-Orientation Test Result (N =100)		SD t-cal Error	Decision
	P	Q	P	Q		
14. 1st	0.18	0.82	0.80	0.20	0.06 -10.33	Reject
15. 2nd	0.22	0.78	0.78	0.22	0.06 - 9.33	Reject
16. 3rd	0.02	0.98	0.82	0.18	0.06 -13.33	Reject
17. 4th	0.04	0.96	0.77	0.23	0.05 -14.60	Reject
18. 5th	0.01	0.99	0.65	0.35	0.05 -12.80	Reject

t - table at 0.05 level of significance and 198 df = 1.96.

Table 9 presents the result of t-test of difference between proportions of BLP group demonstrating correct knowledge of tetanus toxoid administration before and after the orientation.

The calculated t-value is greater than table value of -1.96 at 0.05 level of significance. Therefore, the null hypothesis of no significant difference is rejected in each case. Hence, there is a significant difference between the proportions of the Better Life group that demonstrated correct knowledge of tetanus toxoid administration before and after the orientation. Greater proportion of the Better Life group demonstrated correct knowledge of tetanus toxoid administration after the orientation than before the orientation. In other words, more women had better knowledge of appropriate time for each dose of tetanus toxoid administration after the orientation than before the orientation.

TABLE 10

TEST OF SIGNIFICANT DIFFERENCE BETWEEN PROPORTIONS OF BLP GROUP DEMONSTRATING CORRECT KNOWLEDGE OF DURATION OF PROTECTION OF EACH DOSE OF TETANUS TOXOID

Doses	Pre-Orientation Test Result (N =100)		Post-Orientation Test Result (N =100)		SD t-Cal Error	Decision
	P	Q	P	Q		
19. 1st	0.02	0.98	0.70	0.30	0.05 -13.60	Reject
20. 2nd	0.06	0.94	0.84	0.16	0.04 -19.50	Reject
21. 3rd	0.02	0.98	0.69	0.31	0.05 -13.40	Reject
22. 4th	0.03	0.97	0.60	0.40	0.05 -11.40	Reject
23. 5th	0.01	0.99	0.72	0.28	0.05 -14.20	Reject

t-table at 0.05 level of significance and 198 df = 1.96.

Table 10 presents the result of t-test of difference between proportions of Better Life group demonstrating correct knowledge of duration of protection of each dose of tetanus toxoid before and after the orientation. From the table, it is observed that calculated t-value is consistently greater than table value of -1.96 at 0.05 level of significance. Hence the null hypothesis of no significant difference is rejected in each case. On the basis of available data, there is a significant difference between the proportions of the Better Life group that demonstrated correct knowledge of duration of protection of each dose of tetanus toxoid before and after the orientation. Greater proportion of the Better Life group demonstrated correct knowledge of duration of protection of each dose of tetanus toxoid after the orientation than before the orientation.

Hypothesis 2

There is no significant difference in the adoption pattern of tetanus toxoid immunization between the proportion of eligible women who received tetanus toxoid information from EPI group and those that got similar information from the BLP group.

The data relating to this hypothesis are presented in table 11.

TABLE 11

TEST OF SIGNIFICANT DIFFERENCE BETWEEN PROPORTIONS OF ELIGIBLE WOMEN THAT TURNED-UP FOR TETANUS TOXOID IMMUNIZATION IN THE EXPERIMENTAL AND CONTROL COMMUNITIES FROM FEBRUARY TO JULY 1992

Experimental Community (Ihenweorie Health Centre) N =320		Control Community (Okpofe Health Centre) N =309		SD Error	t-Cal	T-table	Decision
P	Q	P	Q				
0.79	0.21	0.26	0.74	0.03	17.66	1.96	Reject

(For details see appendix I and table 5a & b)

t-table at 0.05 level of significance and 627 df = 1.96

Table 11 presents data on t-test of difference between proportions of eligible women that turned-up for tetanus toxoid immunization in the experimental and control communities from February to July 1992. The table shows that the calculated t-value (17.66) is greater than the table value of 1.96 at 0.05 level of significance. Hence the null hypothesis of no significant difference is rejected. This means that there is a significant difference in the adoption pattern of tetanus toxoid immunization between the eligible women who received tetanus toxoid information from EPI group and those that got similar information from BLP group. Greater proportion of the eligible women who received tetanus toxoid information from the BLP group turned-up for the immunization than those that got similar information from EPI group.

Hypothesis 3

There is no significant difference in the records of the proportion of attendance of eligible women to vaccination before and within the intervention periods.

The data relating to this hypothesis are presented in tables 12 and 13.

TABLE 12

TEST OF SIGNIFICANT DIFFERENCE BETWEEN PROPORTIONS OF RECORDED ATTENDANCE TO TETANUS TOXOID IMMUNIZATION IN THE EXPERIMENTAL COMMUNITY (AKABO) FROM AUGUST 1991 TO JULY 1992

Experimental Record February to July 1992 (N =320)		Pre-Experimental Record August 1991 to January 1992 (N =320)		SD Error	t-cal	t-table	Decision
P	Q	P	Q				
0.79	0.21	0.20	0.80	0.03	19.66	1.96	Reject

T-table at 0.05 level of significance and of 638 df = 1.96.

Table 12 presents data on t-test of difference between the proportions of recorded attendance to tetanus toxoid immunization in the experimental community (Akabo) from August 1991 to July 1992. The table shows that the calculated t-value is greater than table value of 1.96 at 0.05 level of significance. Thus, the null hypothesis of no significant difference is rejected. In other words, there is a significant difference between proportions of

recorded attendance to tetanus toxoid immunization before and within the experimental periods at the experimental community. Greater proportion of the eligible women for tetanus toxoid immunization responded highly to the immunization during the experiment than before the experiment.

TABLE 13

TEST OF SIGNIFICANT DIFFERENCE BETWEEN PROPORTIONS OF RECORDED ATTENDANCE TO TETANUS TOXOID IMMUNIZATION IN THE CONTROL COMMUNITY (OKPOFE) FROM AUGUST 1991 TO JULY 1992

Study Record February to July 1992 (N =309)		Pre-Study Record August 1991 to January 1992 (N -309)		SD Error	t-cal	t-table	Deci-sion
P	Q	P	Q				
0.26	0.74	0.26	0.74	0.04	0	1.96	Accept

Table 13 presents data on t-test of difference between the proportions of recorded attendance to tetanus toxoid immunization in the control community (Okpofe) from August 1991 to July 1992. The table shows that the calculated t-value is lesser than table value of 1.96 at 0.05 level of significance. Hence the null hypothesis of no significant difference is accepted. This means that there is no significant difference in the records of attendance of eligible women to vaccination at the control community before and within the intervention periods. Equal proportion of eligible women for tetanus toxoid immunization responded at the same rate for the immunization before and during the study in the control community.

CHAPTER FIVE

DISCUSSION OF RESULT, CONCLUSION, IMPLICATION, RECOMMENDATION AND SUMMARY

5:1 Introduction

This chapter presents first the summary of findings from the study. The discussion of these findings which follows is organized under three sub-headings as follows:

1. Demonstration of Correct Knowledge of Tetanus Toxoid Before and After The Orientation.
2. Adoption Pattern of Tetanus Toxoid at the Experimental and Control Communities.
3. Response to Tetanus Toxoid Immunization Before and During the Experiment.

It is then followed by conclusions from the study, educational implications of the findings; recommendations and suggestions for further studies. Limitations of the study and summary of the entire work come last.

5:2 Summary of Findings

There was a significant difference in the proportion of BLP group that demonstrated correct knowledge of diseases covered by EPI programme before and after the orientation.

Greater proportions (82.50%) of the BLP group after the orientation had better knowledge of the diseases covered by EPI than the case before the orientation.

2. Significant difference was found between the proportions of the BLP group that demonstrated correct knowledge of information on tetanus before and after the orientation. Greater percentage proportion (85%) of the BLP group were more knowledgeable of information on tetanus after the orientation than before the orientation.

3. There was a significant difference between the proportions of the BLP group that demonstrated correct knowledge of tetanus toxoid administration before and after the orientation. More of the women (76.40%) had better knowledge of appropriate time for each dose of tetanus toxoid administration after the orientation than before the orientation (9.40%).

4. Significant difference was found between the proportions of the BLP group that demonstrated correct knowledge of the duration of protection of each dose of tetanus toxoid before and after the orientation. Greater percentage proportions of the women (71%) were more knowledgeable of the duration of protection of each dose of tetanus toxoid after the orientation than before the orientation (2.80%).

and those that got similar information from the BLP (experimental group). The eligible women that got the tetanus toxoid information from the BLP group (experimental group) responded higher (79.38%) to the immunization than those (control group) that got similar information from EPI group (25.89%).

6. There was a significant difference between the proportions of recorded attendance to tetanus toxoid immunization before and during the experimental periods at the experimental community. Greater percentage proportion (79.38%) of the eligible women for tetanus toxoid immunization responded highly to the immunization exercise during the experiment than before the experiment (20.31%).

7. No significant difference was found in the records of attendance of eligible women to vaccination at the control community before and during the study period. About the same percentage proportion (25.89%:26.21%) of eligible women for tetanus toxoid immunization responded to the immunization exercise before and during the study at the control community.

5:3 Discussion of Findings

Demonstration of Correct Knowledge of Tetanus Toxoid Before and After the Orientation

The study revealed that there was a significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid information before and

after the orientation. It was evident also that there was a general low level of knowledge of information on tetanus before the orientation and a consistent demonstration of high level of knowledgeability in the post orientation result.

The general low level of knowledge before the orientation was not surprising since it had earlier been noted by Olaore (1988) as a hindering factor to the success of EPI programme. Similarly, Obasi and Ugwuanyi (1986) observed a low level of knowledge about EPI programme among their study group in Igboeze Local Government of the then Anambra State. An individual will be able to make right choices only when he or she is acquainted with the skills through education. The World Health Organization (WHO 1986) noted education as the surest way to let the public understand the value of immunization. The report was of the opinion that it is through creating awareness that the eligible women can be knowledgeable of the relevant information concerning immunization.

Worried about the low level of knowledge, with regard to information on immunization, Poehler (1978) affirmed that there is an immediate need for effective communication system to strengthen EPI services. The foregoing buttressed the fact

that the low level of knowledge of tetanus toxoid revealed in the study was not uncommon. The finding therefore underscored the need for tetanus toxoid orientation programme for the BLP group if they are expected to perform well in persuading eligible women to immunize themselves against tetanus. This idea was equally suggested by Okigbo (1987) and Nwogu (1988). According to them, for communication to be effective, the message bearer has to be knowledgeable about an issue he or she is communicating. This assertion was reiterated by the finding of a study by Nwokolo (1978) which showed that poor performance of students in his study was among other things due to lack of quality teachers.

Combs (1977) emphasized that if we want to bring about the desired improvement, efforts must be directed to the source of supply of information. In other words, for the BLP group to be effective disseminators of tetanus toxoid information, they should as a matter of necessity be a credible source of tetanus toxoid information. Buttressing the indispensable need for the source of message to be credible, Jaus (1975) concluded from his study that training was necessary for teachers. According to him, the mere wish to teach effectively was not sufficient to help achieve that goal, in the absence of an appropriate knowledge. In

essence, mere wish to disseminate tetanus toxoid information by the BLP group without adequate tetanus toxoid knowledge orientation would not produce successful persuasion.

The observation of high demonstration of correct knowledge of tetanus toxoid information during the post-orientation test was consistent with the finding of Anele (1991) in which it was reported that her experimental students performed better at the post-test than at the pre-test. Generally, experts hold the view that every successful teaching should be accompanied by a change in behaviour. The fact that there was high level of knowledge as demonstrated by more correct responses during the post-orientation test suggested that the orientation was effective. Similarly, the result of a study by Strawitz and Malone (1987) indicated that training did improve teachers' effectiveness resulting in students acquiring process skill more than their counterparts whose teachers were not trained. In the light of this, the exposure of BLP group to relevant information on tetanus toxoid and their credibility as observed in the result of the post orientation test guaranteed the hope of their effectiveness in the information dissemination.

It appears that an individual is more confident when he/she is discussing an issue he/she is knowledgeable. In

such a case, communication is more effective and the individual is likely to be more persuasive. Such high level of confidence which credibility can confer is essential to the BLP group since the major objective of involving them in tetanus toxoid information dissemination was to persuade the eligible women to immunize themselves against tetanus.

Adoption Pattern of Tetanus Toxoid at the Experimental and Control Communities

The study revealed that there was a significant difference in the adoption pattern of tetanus toxoid immunization between the eligible women who receive tetanus toxoid information from EPI group and those that got similar information from BLP group. Greater proportion of women who received the information from the BLP group turned-up for the immunization than those that got similar information from EPI group. Considering the professional training of the EPI group and the experience they have acquired over the years through being in the EPI service, one would have expected the EPI group to be more effective in their tetanus toxoid information dissemination.

However, the low turn-up of eligible women for tetanus toxoid observed in that area could be due to their fewer number (as opposed to the BLP group) and this factor may have

hindered them from being able to reach the necessary corners of the community they were covering with the information on tetanus toxoid. This view was buttressed by Ighor (1988) who maintained that the ratio of the field worker to the rural people is still inadequate. This lack has resulted into what he called "Social distance between the field worker and the rural people" because in his own view, visits to communities would become rare.

Another possible reason for the low turn-up could be what Barker et al (1983) called heterophily. Their view with reference to heterophily was that persuasion would be less effective if the message bearer is from outside the cultural setting of his audience. They gave the reason for this ineffectiveness as due to the fact that the message bearer does not share similar socio-cultural characteristics with his audience. In their view, such a message bearer may not be familiar with such vital factors as socio-cultural context of his audience, the intricacies of their language, appropriate timing, and motivating factors. This situation may have applied to the EPI workers. They are employed by the respective governments they serve and so are liable to transfer from station to station and from time to time. It is

then possible that they may not be very familiar with the cultural norms of a particular locality before they are transferred to another place. Sachramm (1965) stressing the influence of culture on campaign, emphasized that for any campaign to be effective, it must be based on the understanding of the life, beliefs and attitudes of the villages and the social factors that helped to determine how they lived.

The finding of the study that the eligible women that got the tetanus toxoid information from the BLP group responded higher to the immunization than those that got similar information from EPI group was unexpected. Firstly, the Better Life group were not professionals in the area of dissemination of tetanus toxoid information. Secondly, they have not acquired the tetanus toxoid information dissemination experience which can only accrue through long service in the area. Considering these factors, one would have expected the reverse of the result.

On the contrary, the fact that the BLP group is organized group appeared to give an insight into why they performed better. Group has been identified by several authorities as having some influential force that compel its members to comply to the accepted pattern of behaviour. For instance, study by Hernack and Fest (1964) has shown that groups to

which an individual belongs exert influence on the individuals behaviour. The cause of this influence according to them is that the 'group pressure' exerts force on each member which makes conformity to the norms, goals and decisions of the groups very high. The BLP group may have exerted pressure on the eligible women for tetanus toxoid immunization within their group to immunize themselves. Buttressing the earlier mentioned findings, Philips and Erickson (1970) maintained that when one is committed to membership in a group, there is no way to escape pressure to conform to whatever norms the group has recommended. While WHO (1988) puts it that working with group is a major activity in health education, it went further to emphasize that group support their members in the practice of health behaviour and also enable people to learn from each other.

In addition, the BLP group had advantage of member over the EPI workers. While the EPI workers were six, the BLP group were one hundred in number. In other words, the social distance created by shortage of field workers which was identified as a hinderance by Ighor 1988 may not have applied to the BLP group. This suggests that they may have been more able to reach larger proportion of their audience with tetanus toxoid information than the EPI group.

Another factor that may have facilitated the effectiveness of the BLP group was the "homophily factor" identified by Barker and his group. In accordance with the principle of homophily, since the BLP group share similar characteristics with their audience members (eligible women for tetanus toxoid) they were more likely to be more persuasive than the EPI group that appeared to have heterophily relationship with their audience. In other words, the BLP women were part and parcel of the community members they were to persuade, they would be more familiar with the socio-cultural factors, suitable time, appropriate language, needs of the people and adequate way to arose their interest. These factors have been observed by Mndzebele (1988) Umeh (1987) and Sachramm (1965) as important factors for effective communication.

Response to Tetanus Toxoid Immunization Before and During the Experiment

From the study, it was observed that there was a significant difference between the proportions of recorded attendance to tetanus toxoid immunization before and during the experimental periods at the experimental community. Greater percentage proportion of the eligible women responded highly to tetanus toxoid immunization during the experiment than before the experiment.

Greater response noticed during the experimental period was expected since available literature showed similar increase in EPI turn-up as a result of campaigns. For instance, WHO (1986) reported that campaign increased the number of DPT (Diphtheria, Pertussis and tetanus) and polio immunization twice the previous monthly coverage in Yemen in Arab Republic in 1980 and 1981. In affirmation Bertan and Reid (1985) reported of increase in immunization coverage in Turkey in 1985 from 25 percent pre-campaign to 91.7 percent. Buttressing earlier reports, Risi and her group (1980) observed a 90 per cent coverage representing 20 million children during a campaign in Brazil.

Data in table 13 showed that there was no significant difference in the records of attendance of eligible women to vaccination at the control community before and during the study period. Secondly, that the same percentage proportion of eligible women for tetanus toxoid immunization responded to the vaccination at the control community before and during the study period. Ordinarily, one would have expected similar increase but realizing other factors such as fewness in number, heterophile earlier identified, one would appreciate the result. Secondly, being a control community, no new treatment variable was introduced so the status quo was

expected to remain the same. The result in the control appears to buttress the fact that the experimental result did not just happen by chance. Though one might be tempted to think that the result in the experimental community may have resulted due to population growth. The fact that there was a great margin between the experimental and pre-experimental result and also that such suspected growth did not indicate in the control nullified such assumption.

Some members of the BLP group owing to their sex and age, might have fallen into the beneficiaries of the tetanus toxoid immunization. Thus creating another motivational factor for their effectiveness. Reports have shown that when people are involved in the execution of a programme of which they are beneficiary, they are usually more committed to the achievement of the goals and objectives of such programmes. For instance, Kincaid and Yum (1978) reported that the involvement of the mothers' club in family planning campaign in a Korean Village made the family planning practices to be more readily adopted by the women as against the case when the campaign was carried out solely by the health workers. Still on the issue of involving women in programmes meant for them, WHO (1978) noted that women can play an important role in promoting health, particularly in view of their central role

in the family. The organization therefore recommend the use of women-folk in the execution of any health programme meant for them. In addition, UNICEF (1985) reported that tetanus toxoid immunization campaign in West Nusa Tenggara, Indonesia attained a coverage rate of 93 per cent for two doses of tetanus toxoid among women of child-bearing age through the complementary effort of women's group in tetanus toxoid information dissemination.

5:4 Conclusion

There was significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid information before and after the orientation programme.

Evidence from the study have shown that in general the BLP group had better knowledge of the diseases covered by EPI after the orientation than before the orientation. They were also more knowledgeable of information on tetanus after the orientation than before the orientation. More of the BLP had better knowledge of the appropriate time for the administration of each dose of tetanus after the orientation than before the orientation. Greater proportion of the BLP demonstrated correct knowledge of the duration of protection of each dose of tetanus toxoid after the orientation than before it. There was a significant difference in the adoption

pattern of tetanus toxoid immunization between the eligible women who received the information from the EPI group and those that got similar information from the BLP group. The eligible women who got the information from the BLP group responded higher to the tetanus toxoid immunization than those who got similar information from the EPI group. There was significant difference between the recorded attendance of tetanus toxoid immunization before and during the experimental periods at the experimental community. Greater proportions of the women responded to the immunization during the experimental period than before the experiment. No significant difference was found between the recorded attendance of eligible women to tetanus toxoid immunization before and during the experiment at the control community. Equal proportion of the women responded to the tetanus toxoid immunization before and during the experiment at the control community.

5:5 Educational Implication

The findings of the study have educational implications in the following areas:

1. Determining subject credibility of an information source

The study revealed that the BLP group were more knowledgeable about tetanus toxoid information after the orientation than before the orientation. This

information provides the need for determining the level of subject credibility of any individual or group charged with the responsibility of disseminating a particular information. This could be carried out through pre-testing to reveal the baseline level of knowledge possessed. On the basis of the pre-testing result, an orientation or training could be planned to enhance the credibility of the expected source charged with the responsibility of educating others.

2. Involvement of BLP Group in Tetanus Toxoid Information Dissemination

The observation that the eligible women for tetanus toxoid immunization at the experimental community (where the BLP group disseminated information) responded more highly to the vaccination than the case at the control community serves as the basis to involve the BLP group in tetanus toxoid information dissemination. The group is found in every community, therefore involving them in every community means carrying out similar campaigns in the respective communities they operate. Such involvement could have the possibility of increasing the coverage rate of the programme.

3. Involvement of the Women in the Planning and Execution of any programme planned for them

It was suggested along the discussion that the fact that some members of the BLP group were beneficiaries of the tetanus toxoid vaccination could have been an added motivational factor to their commitment in the achievement of the goals and objectives of the campaign. This gives insight into the need to involve a beneficiary of a programme, particularly, the women in the planning and execution of any programme meant for them.

4. Involvement of BLP Group in other health programme

The findings that the BLP group persuaded greater proportion of their audience to have the tetanus toxoid immunization in this study could necessitate their involvement in the campaign of other health programmes in the community.

5. Involvement of other groups within the community in Tetanus Toxoid Information Dissemination

The successful involvement of the BLP group in this campaign could trigger the need to identify, train and involve other groups within the community in tetanus toxoid information dissemination e.g. Age group, 'UmuAda' etc.

6. Review of the State of EPI Workers

As further revealed by the study, lesser proportion of the eligible women for tetanus toxoid immunization responded to the vaccination at the control community (where the EPI group disseminated information). It has been suggested that such result could possibly have resulted from the fewness in number of the EPI group, the heterophily factor or even lack of credibility. Thus suggesting the need to review and ascertain the actual cause. Where the cause is due to fewer number, more EPI workers could be employed if possible or involve other social groups particularly the BLP group to complement the effort of the EPI workers in tetanus toxoid information dissemination. In the case of heterophily factor, it underscores the need to deploy the EPI workers in their respective localities where it is expected that they would have similar characteristics with their audience. Short-comings owing to suspected lack of credibility could necessitate the need to review their level of credibility with respect to tetanus toxoid information dissemination with a view to planning a tetanus toxoid refresher courses for inserving staff.

5:6 Recommendation

Based on the implications of the findings, the underlisted recommendation were made:

1. On the basis of the low level of tetanus toxoid knowledge revealed by the pre-orientation test result among the BLP group, more awareness should be created among the BLP group and other women who are also the recipients of the programme. It is hoped that more eligible women would be willing to immunize themselves against tetanus if they are aware of the need, time interval between doses and the duration of protection of each dose of the vaccine. The envisaged awareness could be achieved through orientation/training programmes, awareness campaigns, seminars and conferences for women.
2. The EPI workers should adapt their method of information dissemination to the cultural pattern of their target audience. For instance, by making use of songs, proverbs, illustrations with stories etc.
3. There is the need to increase the present level of awareness on tetanus toxoid immunization. This can be achieved by complementing the effort of EPI workers with those of the BLP groups in tetanus toxoid information dissemination. Presently, the BLP group are at every

level of the government and every locality, higher tetanus toxoid coverage should be presented to them as a challenge in each local government area. In that case, tetanus toxoid information dissemination becomes a competitive event among the BLP groups. In order to achieve this, the EPI programme planners could meet the executives of the BLP group at any of the levels they want to approach the problem. Inform the executive members of the state of tetanus toxoid coverage and the inherent danger. They will then request for their intervention. It is hoped that by winning their involvement, it will go a long way in complementing the effort of the EPI workers with a view to attaining a higher coverage.

4. The personnel department of EPI office should try to deploy the EPI workers in their respective localities of origin where it is expected that they would have similar characteristics with their audience. The EPI workers in the field should try to learn and consider the socio-cultural context of their audience in their tetanus toxoid information dissemination. By so doing, they are more likely to be effective in their persuasion.

5. Other groups within the community especially the women's groups should be identified, trained and involved

in tetanus toxoid information dissemination. In the same manner, the BLP groups should be involved in the campaign of other health programmes in the community.

6. The status of the EPI field workers should be appraised. The appraisal should,among other things, embrace their level of credibility as a source of information for tetanus toxoid immunization and other EPI vaccines; adequacy of the number of EPI field workers and adaptability of campaigns to their audience. Based on the findings of the appraisal, recommendations could be made for improvement of their job.

5:7 Suggestions for Further Study

The present study has avenues for further research in the following areas:

1. Investigation into the factors that influence turn-out rate for anti-tetanus vaccination. It is hoped that the revelation of these factors will enhance future EPI campaigns.

2. Evaluation of the efficacy of tetanus toxoid information dissemination by other groups. This will throw light into the available human resources in the community that can complement the effort of EPI workers with a view to attaining a wider tetanus toxoid coverage.

3. Appraisal of the status of the EPI field workers. Such study would be expected to provide data on their level of credibility as source of tetanus toxoid information; adequacy of their number in the field and adaptability of campaigns to their audience. On the basis of the findings, a programme for improvement of their status could be mapped out.

5:8 Limitation of the Study

The population of eligible women for tetanus toxoid immunization in the respective communities of study was merely a population projection got from the Statistic Unit, State Ministry of Health, Owerri. Unfortunately, the latest 1991 provisional census result that should have been useful in this study did not specify the number of women within the child-bearing age in the said localities.

The study took it for granted that all the eligible women that vaccinated during the study period were prompted to vaccinate as a result of the campaign by either the BLP or EPI group within the respective study areas. There was the possibility of some vaccination without direct contact with information from any of the two groups. In the same vein, some that got the information through any of the campaign groups could also have gone elsewhere to vaccinate.

The fact that the study involved two different information groups with perhaps different environmental and social factors operating could have also affected the findings of the study.

It is also important to note that the level of knowledge of tetanus toxoid possessed by the EPI group was neither evaluated nor compared with that possessed by BLP after the orientation before charging them to carry on with the information dissemination. There could be the possibility of variation between the level of tetanus toxoid information possessed by the two groups and such variation could affect their impact differently.

5:9 Summary

Tetanus toxoid immunization is a vaccination given to pregnant women and women within the child-bearing age (15-44 years of age) to guarantee the protection of their new born babies against tetanus attack. Regrettably, existing literature and medical records revealed a general low coverage rate of this vaccine and a consequent high neonatal death rate. This situation has been blamed on inadequate dissemination of relevant information about the programme to these eligible women whom the programme is meant for. Consequently, the need was felt for an investigation into an

effective communication process that could persuade the eligible women to obtain tetanus toxoid vaccination. Therefore, the problem investigated in this study was the effectiveness of information dissemination through a comparison and anti-tetanus information dissemination carried out by EPI and BLP groups in two different communities.

In carrying out the study, it was hypothesized that:

No significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid information before and after the orientation programme.

No significant difference in the adoption pattern of tetanus toxoid immunization between the proportion of the eligible women who received the information from EPI group and those that got similar information from the BLP group.

No significant difference in the records of the proportion of attendance of eligible women to vaccination before and during the intervention periods.

Quasi-experimental design was adopted for this comparison. An estimated total of 320 and 309 eligible women were expected to immunize themselves at the experimental and control community respectively. As a lead to the study, the Better Life group (100 in number) who prior to the study have not had formal tetanus toxoid information training were given two days orientation on relevant area. During the

orientation, a pre/post orientation tests were administered to determine their baseline level of knowledge as well as the impact of the orientation respectively. The knowledge test instrument which had both English and Igbo versions were developed by the researcher and validated by experts and also administered accordingly. Test of Significant Difference between Proportions was applied to the data.

The BLP group was then allowed to carry out the information dissemination between February and July 1992 (a period of six months) in the experimental community while the EPI group (6 in number) disseminated similar information at the same period in the control community.

While the experiment was going on, the records of eligible women that vaccinated at the respective centres within the study communities were recorded. There was also a review of records of immunized eligible women for the last six months prior to the study.

Result indicated that:

There was significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid information before and after the orientation. Generally, greater proportion of the BLP group were more knowledgeable of information on tetanus after the orientation and before the orientation.

There was a significant difference in the adoption pattern of tetanus toxoid immunization between the eligible women who received the information from EPI group and those that got similar information from the BLP group. The eligible women who got the information from BLP group responded more highly to the tetanus toxoid immunization than those that got similar information from the EPI group.

Significant difference was revealed between the recorded attendance to the tetanus toxoid immunization before and during the experimental periods at the experimental community. The eligible women responded higher during the experiment than before the experiment at the experimental community.

No significant difference was found between the proportions of recorded attendance to tetanus toxoid immunization before and during the experiment at the control community. Equal proportions of the women responded to the tetanus toxoid immunization during the two periods at the control community.

In line with the discussion of these findings, the educational implications of these findings were made and recommendations provided. Avenues for further areas of research and the limitations of the study were highlighted.

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APPENDIX A

Orientation Pre and Post Test (English Version)

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION,

UNIVERSITY OF NIGERIA, NSUKKA.

Dear Madam,

The investigator is a postgraduate student of the above department, conducting a study on "Efficacy of Anti-Tetanus Information Dissemination by EPI and Better Life Groups in Okpofe - Ezinihite and Akabo Ahiazu Local Government Areas of Imo State.

The investigator intends to expose you to a training that will acquaint you with some relevant information necessary for you to disseminate tetanus toxoid information. As a basis for the training, you are requested to complete the attached questionnaire before the commencement of the training. At the end of the training, you will also be required to complete another copy of the same questionnaire. The essence of the two tests is to find out the impact of the training.

Please do not write your name as the test is not for grading you but solely to obtain information for this study. Feel free, the information you supply will be treated with utmost confidentiality.

Thanks for your cooperation.

Yours sincerely,

ATUFUNWA, F. O. (MRS.)

Mark X against the box or boxes that agree(s) with your views.

1. Which six among these diseases that are covered by Expanded Programme on Immunization (EPI).

(a) Malaria /____/

(b) Kwashiorkor /____/

(c) Typhoid Fever /____/

(d) Measles /____/

(e) Tetanus /____/

(f) Poliomyelitis /____/

(g) Head Ache /____/

(h) Whooping Cough /____/

(i) Diphtheria /____/

(j) Guinea Worm /____/

(k) Tuberculosis /____/

7. Tetanus germ is caused by

(a) Tetanus toxoid /____/

(b) Tetanus Toxin /____/

(c) Umbilical Cord /____/

(d) Delivering the child outside maternity or hospital /____/

8. Tetanus germ can attack

(a) New born babies only /____/

(b) Adults only /____/

(c) All ages (both young and old) /____/

(d) Those immunized with toxoid /____/

9. Neonatal tetanus is dangerous because

(a) Majority of babies that suffers from it die /____/

(b) Everyone survives its attack /____/

(c) It is covered by EPI programme /____/

(d) It is caused by measles /____/

10. Transmission of tetanus germ is

(a) Through contact with newborn babies /____/

(b) Common to destined to die babies /____/

(c) Applicable to immunized people /____/

(d) When wounds come in contact with contaminated objects /____/

11. The most effective way of preventing the attack of tetanus is to

(a) Stop bearing children /____/

(b) Get sufficient dose of tetanus toxoid immunization /____/

(c) Stop delivering babies at local maternities /____/

(d) Cut Umbilical Cord with surgical blades /____/

12. Mothers should properly immunize themselves against tetanus so that

    (a) They pass on the protection to the unborn child /____/

    (b) They will have quick delivery /____/

    (c) Their babies will not cry /____/

    (d) They will have their babies at the 9th month /____/

13. The target group for the tetanus toxoid immunization under EPI Programme is

    (a) Men and women in industrial work /____/

    (b) Children 0-2 years, pregnant women and women within the child-bearing age /____/

    (c) Those with injuries /____/

    (d) Those that attend general hospital /____/

Kindly complete the gaps below by indicating the appropriate time of administration of each dose of tetanus toxoid.

Dose	When it must be administered
14. 1st	_____
15. 2nd	_____
16. 3rd	_____
17. 4th	_____
18. 5th	_____

Please complete the gap below by indicating the duration of protection of each dose of tetanus toxoid.

Dose	Duration of protection
19. 1st	
20. 2nd	
21. 3rd	
22. 4th	
23. 5th	

APPENDIX B

Orientation Pre and Post Test (Igbo Version)

Dee Mkpuru akwukwo X n' oghere dabara na nkwenye gi.

1. Kedu oria isii ndi a na-elebara anya n' atumatu EPI

   (a) Iba /____/

   (b) Kwashioko /____/

   (c) Oria taifoid /____/

   (d) Akpata ma obu arubara (measles) /____/

   (e) Oria nkuchiagba /____/

   (f) Oria poliomilaitis /____/

   (g) Isi owuwa /____/

   (h) Oke ukwara (whooping cough) /____/

   (i) Oria Difteria /____/

   (j) Nwaori (genea worm) /____/

   (k) Ukwara nta (tuberculosis) /____/

7. O lee umu nje n'ebu oria nkuchiagba

   (a) Ogwu mgbochi nkuchiagba /____/

   (b) Nje nkuchiagba (tetanus toxin) /____/

   (c) Alulo nwa /____/

   (d) Ighoputa nwa ebe n'abughi ulo ogwu imu nwa /____/

8. Olee ndi umu nje n'ebu oria nkuchiagba na-emekpa ahu

   (a) Nani umuaka a muru ohuu /____/

   (b) Nani ndi okenye /____/

(c) ndi otu ebiri n'ile (ma nwata ma okenye) /____/

(d) Ndi a gbarala ogwu oria nkuchigba /____/

9. Oria nkuchi agba umuohuru di egwu n'ihi na

(a) Otutu umuohuru obiara na anwu /____/

(b) Onye obula nwere ya bu oria na-agbake /____/

(c) Atumatu igba ogwu EPI na-egbochi ya bu oria /____/

(d) Akpata (arubara) na-ebute ya bu oria /____/

10. Ofufe umu nje n'ebu oria nkuchiagba na-esina

(a) Madu na nwa o muru ohuu imetuta ahu Okacha egbu umu ohuu okara aka ha bu na ha ga-anwu no /____/

(b) Okacha egbu umu ohuu akara aka ha bu na ha ga-anwu /____/

(c) O na-adikwa ebe ndi agbarala ogwu mgbochi di /____/

(d) Mgbe Onya mmadu nwere mekutara n'ihe ndi ahu umu nje n'ebu oria di na ha /____/

11. Uzo kechasi mma isi gbochie oria nkuchiagba bu

(a) Site n'ikwusi imu umu /____/

(b) Site n'igba ogwu mgbochi nkuchiagba dika Okwesiri /____/

(c) Ikwusi imu nwa n'ulo ogwu digasi n'ime obodo /____/

(d) I ji ezi mma eji awa ahu n'ulo ogwu chabie alulo nwa /____/

12. Ndi nee kwesiri igbazu ogwu nkuchiagba dika Okwesiri i ji wee

(a) Nyefe nwa ha bu n'afo ike ngbochi ya bu oria /____/

(b) Muo nwa oso oso /____/

(c) Ka nwa ha gbara ibe akwa /____/

(d) Muo nwa ha n'onwa nke itoli /____/

13. Otu e bu n'obi maka igba ogwu mgbochi nkuchiagba n'okpuru atumatu EPI bu

(a) Ndi nwoke na ndi nwanyi na-aru n'ulo /____/

(b) Umuaka bido mgbe amuru ha ruo afo abuo, umu nwanyi di ime na umu nwanyi noo n'ogo imu nwa /____/

(c) Ndi nwere onya /____/

(d) Ndi na-eje ulo ogwu oha-na-eze /____/

Biko dechie ohere ndia site na-iziputa oge kacha mma maka igba onu ogwu mgbochi nkuchiagba ndia

Okere ogwu O ga-agba	Oge ekwesiri Igba ya
14. Nke mbu	_____
15. Nke abuo	_____
16. Nke ato	_____
17. Nke ano	_____
18. Nke ise	_____

Biko dechie ohere ndia site na-iziputa Ogologo
Oge nchekwa ogwu nkuchiagba ndia nwere ike ichekwa mmadu.

Okere ogwu a ga-agba	Ogologo oge nchekwa ya
19. Nke mbu	
20. Nke abuo	
21. Nke ato	
22. Nke ano	
23. Nke ise	

APPENDIX C

Orientation Objectives

To guide the training sessions, the following specific objectives are formulated:

1. At the end of the orientation, the participants will be able to:

   (i) List the diseases covered by EPI programme and the target group the programme is addressing.

   (ii) Mention the cause, mode of transmission, susceptibility to attack and mortality rate of tetanus victims.

   (iii) Outline the preventive measures against the attack of tetanus.

   (iv) Complete the immunization schedule of tetanus toxoid for women of child bearing age.

APPENDIX D

The Orientation Curriculum

Topic	Content/Tasks	Methods	Logistic /Aids	Evalua -tion

1. EPI Programme	The diseases covered by EPI Programme EPI target group Diseases covered by the programme 1. tetanus 2. measles 3. tuberculosis 4. diphtheria 5. whooping cough 6. poliomyelitis (Polio) <u>Target group</u> children 0-2yrs for tetanus toxoid, pregnant women, women within child-bearing age in addition to children 0-2yrs.	Explanations, Questioning and answering, discussion lecture, brain storming, stories and songs.	Charts, Posters, handout.	Review Questions
	Cause and mode of transmission Susceptibility Mortality rate and preventive measure.	Administering the questionnaire the group members	Questionnaire charts, posters	
Tetanus germ	<u>Cause and mode of transmission</u> i. The disease is caused by toxin of tetanus. ii. Transmission is through contact with contaminated objects such as broken bottles, knives, un-	lecture, brain-storming, discussions, stories, songs proverbs.		Pre-test ques-

	sterilized surgical materials etc while cutting the umbilical cord of neonates. Susceptibility i. All ages are susceptible to its attack. ii. Those more liable are neonates i.e. new born babies post pactum women, agric-ultural workers. Mortality Rate is about 60% i.e more than half of those attacked die. It is the second leading killer of children among the EPI. Preventive Measures i. Vaccination of pregnant women and women within child-bearing age with tetanus toxoid. ii. Vaccination of babies with triple vaccine	Brain storming Discussion stories	Photo-graphs of victims. Charts Posters	Review Questions

Tetanus	Preventive measure contd. 3. Avoiding contact with contaminated objects. 4. Delivering babies in germ-free environment.	Lectures, brain storming, discussion, stories, songs and proverbs	Charts posters	Review questions
The new Immunization Schedule of Tetanus Toxoid for women of child-bearing age.	The Schedule Dose when it must be given / Duration of Protection 1. At First contact as early pregnancy as possible including the first quarter. — 0 2. At least 4 weeks after the first dose — 3 Yrs 3. At least 6 months after the second dose or during subsequent pregnancy — 5 Yrs 4. At least 1 year the third dose during subsequent pregnancy — 10 Yrs	Questioning and answering stories demonstrations	Posters Handouts	Review Questions

	5.At least 1 year after the fourth dose during subsegent pregnancy. Life time			
Determining the outcome of the lecture	Questions that will review the knowledge possessed about tetanus toxoid and effective communication.	Administering questionnaires or interviewing the group members.	Questionnaire/ Interview Schedule	Posttest questions

APPENDIX E

LECTURE HANDOUT ON TETANUS TOXOID (ENGLISH VERSION)

1. Immunization gives protection against dangerous communicable diseases. It is carried out through the introduction of vaccines into the body.
2. Immunization helps to build up the body defences against a particular disease.
3. Immunization is carried out to reach wider coverage through the expanded programme on immunization (EPI).
4. The EPI Immunization is against the following diseases:

   Tetanus
   Measles
   Whooping cough
   Poliomyelitis
   Tuberculosis
   Diphtheria.

5. The EPI programme is targeted at immunizing

   (a) Children between 0-2 years of age.
   (b) Pregnant women.
   (c) Women within child-bearing age (15-44 years).

6. Tetanus disease is caused by a poisonous substance called tetanus toxin.
7. Tetanus germ is common in faeces, soil, and dirty environment.
8. The germ enters the body when openings of wounds come in contact with objects that are contaminated with the germ.

9. Mothers can protect themselves and their new-born babies against tetanus by making sure that they are properly immunized before or during pregnancy.
10. Any pregnant woman that fails to immunize herself against tetanus places her life and that of her baby at risk.
11. The attack of new born babies by tetanus is called neonatal tetanus.
12. Neonatal tetanus is dangerous because majority of babies suffering from it die.
13. Neonatal toxoid is a vaccine that protects one against the attack of tetanus.
14. Tetanus can affect anyone that is not fully immunized with tetanus toxoid.
15. The only way to protect one from tetanus infection is to have the prescribed number of tetanus toxoid at the specified intervals.
16. A pregnant woman that is fully immunized, passes on the protection to the unborn child.
17. Five doses of well given tetanus toxoid protect one against tetanus for life.

18. Below is the schedule for tetanus immunization for women.

DOSE	WHEN IT MUST BE ADMINISTERED	DURATION OF PROTECTION
TT-1	As early as possible in pregnancy	0
TT-2	At least four weeks after TT-1	3 Years
TT-3	At least six months after TT-2 or during next pregnancy	5 Years
TT-4	At least one year after TT-3 or during next pregnancy	10 Years
TT-5	At least one year after TT-4 or during next pregnancy	Life time.

A P P E N D I X F

LECTURE HANDOUT ON TETANUS TOXOID

(IGBO VERSION)

1. Igba ogwu mgbochi oria na-eme ka umu nje na-ebute oria ghara irute gi, Ana-agba ogwu ngbochi site na iso oku aka.

2. Igba ogwu mgbochi oria na-enye ahu ike ilusi umu nje na-ebute oria ogu.

3. Anagbasa igba ogwu ngbochi oria rute otutu mmadu site na atumatu EPI

4. Atumatu ogbugba ogwu EPI bu maka mgbochi oria ndia:

   Tetanus.

   Akpata

   Ukwara nturi ma obu ukwara ose

   Polio myelitis

   Ukwara nta

   Diphteria.

5. Emere atumatu EPI maka

   a. Umuaka amuru ohuru rue na ndi di afa abuo

   b. Umunwanyi ndi di ime

   c. Umunwanyi ndi rurule ogo imu nwa rue na ndi na-ebebegbi ime.

6. Ihe na-akata oria tetanus bu nje tetanus toxin.

7. Ebe nje oria tetanus na-ebikari bu n'ime nsi, n'aja nakwa ebe ruru unyi

8. Ana-enweta oria tetanus site mgbe onya mmadu mekutera ebe nje oria tetanus bi

9. Ndi nne nwere ike igbochi onwe ha na nwa ha ohuru inweta oria

10. Nwanyi obula di ime ma hapukwa igba ogwu mgbochi oria tetanus na-eghe ndu ya na nwa ya ohuru n'ejuju

11. Oria tetanus umuaka amuru ohuru ka anakpo neonatal tetanus.

12. Oria tetanus umuaka ajoka n'ihi na otutu umuaka ndi na-aria ya bu oria na-esi n'ima ya anwu.

13. Tetanus toxoid bu ogwu mgbochi maka oria tetanus.

14. Tetanus na-enweta onye obulakaa-agbazughi ogwu mgbochi oria tetanus.

15. Nani uzo mmadu nwere iji gbana n'oria tetanus bu igbazu ogwu tetanus toxoid dika okwesiri.

16. Nwanyi obula di ime ma gbazukwa ogwu mgbochi oria tetanus nke oma na-ebufekwa ngbochia n'ebe nwa obu na'afo.

17. Ugboro ise ka onye obula kwesiri igba ogwu ngbochi a ka o wee nwe ikkikere ngbochi oria ruo ogwugwu ndu ya.

18. Nke a bu usoro ogbugba ogwu tetanus toxoid maka umunwanyi

USORO OGBUGBA	OGE EKWESIRI IGBA YA	OTU MGBOCHI YA HA
TT-1	Nsi mbido ime nwanyi	Onweghi ma oli
TT-2	Ya peka mpe ka izu uka ano fere ka agbara nke mbu	Afo ato
TT-3	Ya pekaria, ka izu uka isii fere ka agbachara nke abuo ma obu mgbe odiri ime ozo	Afo Ise
TT-4	Ya pekaria, ka otu afo fere ka agbachara nke ato ma obu mgbe nwanyi diri ime ozo	Afo iri
TT-5	Ya pekaria, ka otu afo fere ka agbachara nke ato ma obu mgbe nwanyi diri ime ozo	Ruo ogwugwu ndu

A P P E N D I X GG

Personnel Involved in The Study and Their Functions

PERSONNEL	LOCATION	NUMBER	FUNCTION
Better life group	Akpabor	100	Diffusion of Tetanus toxoid Information
EPI Workers	Okpofe	6	Diffusion of Tetanus Toxoid Information
Eligible women for Tetanus Toxoid	Akabor Okpofe	320 300	Receiving and Responding to Tetanus toxoid Information. Immunization.
Research Aides	Akabor	10	Administration of pre-and post orientation instrument
The Researcher	Study Communities	1	Directing, guiding and Co-ordinating all the project activities

A P P E N D I X H

Project Programme of Activities

August-November 1991	Dec. 1991 To Jan. 1992	Feb. - July 1992	August 1992
-Collection of base-line information Review of literature	-Preparation of proposal and its defence	-Implementation of diffusion of tetanus toxoid information by the respective groups. -Response rate to Immunization data gathering.	Analysis of data and writing Report

THE EFFICACY OF ANTI-TETANUS INFORMATION DISSEMINATION BY EPI AND BETTER LIFE PROGRAMME

BY DR. (MRS) FLORENCE OLUCHI ATUFUNWA

SYNOPSIS

Tetanus toxoid immunization is a vaccination given to pregnant women and women within the child-bearing age (15-44 years of age) to guarantee the protection of their new born babies against tetanus attack. Regrettably, existing literature and medical records revealed a general low coverage rate of this vaccine and a consequent high neonatal death rate. This situation has been blamed on inadequate dissemination of relevant information about the programme to these eligible women whom the programme is meant for. Consequently, the need was felt for an investigation into an effective communication process that could persuade the eligible women to obtain tetanus toxoid vaccination. Therefore, the problem investigated in this study was the effectiveness of information dissemination through a comparison of anti-tetanus information dissemination carried out by EPI and BLP groups in two different communities.

In carrying out the study, it was hypothesized that:

No significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid information before and after the orientation programme.

No significant difference in the adoption pattern of tetanus toxoid immunization between the proportion of the eligible women who received the information from EPI group and those that got similar information from the BLP group.

No significant difference in the records of the proportion of attendance of eligible women to vaccination before and during the intervention periods.

Quasi-experimental design was adopted for this comparison. An estimated total of 320 and 309 eligible women were expected to immunize themselves at the experimental and control communities respectively. As a lead to the study, the Better Life group (100 in number) who prior to the study have not had formal tetanus toxoid information training were given two days orientation on relevant area. During the orientation, a pre/post orientation tests were administered to determine their baseline level of knowledge as well as the impact of the orientation respectively. The knowledge test which had both English and Igbo versions were developed by the researcher and validated by experts and also administered accordingly. Test of Significant Difference between Proportions was applied to the data.

The BLP group was then allowed to carry out the information dissemination between February and July 1992 (a period of six months) in the experimental community while the EPI group (6 in number) disseminated similar information at the same period in the control community.

While the experiment was going on, the records of eligible women that vaccinated at the respective centres within the study communities were recorded. There was also a review of records of immunized eligible women for the last six months prior to the study.

Results indicated that:

There was significant difference in the proportion of BLP group that demonstrated correct knowledge of tetanus toxoid information before and after the orientation. Generally, greater proportion of the BLP group were more knowledgeable of information on tetanus after the orientation than before the orientation.

There was a significant difference in the adoption pattern of tetanus toxoid immunization between the eligible women who received the information from EPI group and those that got similar information from the BLP group. The eligible women who got the information from BLP group responded more highly to the tetanus toxoid immunization than those that got similar information from the EPI group.

Significant difference was revealed between the recorded attendance to the tetanus toxoid immunization before and during the experimental periods at the experimental community. The eligible women responded higher during the experiment than before the experiment at the experimental community.

No significant difference was found between the proportions of recorded attendance to tetanus toxoid immunization before and during the experiment at the control community. Equal proportions of the women responded to the tetanus toxoid immunization during the two periods at the control community.

In line with the discussion of these findings, the educational implications of these findings were made and recommendations provided. Avenues for further areas of research and the limitations of the study were highlighted.