CONSUMERS' BEHAVIOUR TOWARDS THE EXPANDED PROGRAMME OF IMMUNIZATION

BY

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CERTIFICATION

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ABSTRACT

The purpose of this study is to examine the factors that impede the utilization of the services of the expanded programme of immunization, and make recommendations in the light of the findings as to the strategies for implementing an educational programme for the E.P.I. (expanded programme of immunization). In order to investigate these factors a number of hypothesis provided an anchor for analysis. Also two models were used to help put those gamuts of ideas and studies into a meaningful and proper perspective. Those are the health belief models of Irvin Rosenstock 1966 and his colleague Becker (1974); and Green's Health education model (1976).

Mothers (consumers) who had children since the inception of the expanded programme of immunization services in May 1976 in Ayedado community (made up of Ikiro, Apomu and Ikoyi) of Oyo State were interviewed. By the use of questionnaires containing both structured and open ended questions, information was gathered on consumers' knowledge, attitude and practices towards the programme. Information was also gathered by the researcher through observation at the Health centre and oral interview of the Health personnel as well as the Chief Health Officer for Oyo State. In the administration of the questionnaire the multistage

sampling technique was employed and the final sampling units were mothers who had children since the inception of the programme in May 1976.

The data gathered and analysed by means of chi-square percentage, biserial correlation coeficient, and analysis of variance (f-value) point to a situation that behavioural problems exist among the consumers that affect their appropriate utilization of the free child immunization services. Those behavioural problems have three major antecedents which are predisposing factors (poor knowledge of the programme, negative attitude, and perception); enabling factors (non-availability of enough immunization centres and vaccines, unsuitability of immunization days to some consumers, social inaccessibility of immunization to some consumers because of the attitude of the health worker) and reinforcing factor (non belief in the efficacy of the immunization vaccines and the poor attitude of some health personnel to duty).

In this study there are three categories of respondents; consumers who took their children for complete immunization (34%); consumers with incomplete immunization for their children (defaulters) (10%) and potential consumers who did not take their children for immunization (56%)

In the light of the findings, educational strategies such as a more effective communication with consumers to influence their knowledge, attitude, beliefs and norms; community organisation activities designed to influence the voluntary adjustment of resources to make health services more accessible were recommended. Other recommendations include staff activities such as consultation, supervision, inservice training and continuing education, designed to influence the attitude and behaviour of providers towards clients.

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CHAPTER I

INTRODUCTION

Some five million children die each year in developing countries, and the same number are crippled, blinded, mentally retarded or otherwise disabled for life, because they contact diphtheria, pertussis (whooping cough), tetanus, measles, poliomyelitis or tuberculosis [1,2]. These are diseases that can be prevented by immunization but despite the low cost and ease of delivery, less than 10% of 80 million children born each year in developing countries are now receiving immunization services [3]. People in developed countries find it difficult to grasp the significance of theses figures. While in developing countries the diseases are so commonplace that parents, health workers and political leaders have come to accept the continuing existence of this tragic situation [4]. Much can intact be done to reverse this tragic situation and it is precisely with this aim in mind that the World Health Organisation (WHO) has given priority to an "expended programme on immunization" [5].

The WHO and the United Nations Childrens' Emergency Fund (UNICEF) believe that control of communicable diseases is a necessary condition of social and economic development. To establish an efficient and permanent childhood immunization

service is a significant step for any nation's progress in that direction[6]. And Nigeria today like all underdeveloped countries, is committed to very ambitious social and economic plans for growth, in which the good health of the people is considered as a paying investment and a requirement for their success[7].

Immunization against disease is nothing new. It is one of the most effective methods of protecting both the individual and the community from attack of certain infectious diseases[8]. The basic concept of immunization is a simple method of artificially producing an immunity or resistance to a disease such as that which would normally follow a naturally acquired infection, without, of course causing harm to the individual. If a sufficient proportion of the susceptible population can be made immune, an infection will not spread among the other susceptible individuals so easily. The protection of a sufficient proportion (70-80%) of the population confers a high degree of immunity to the community as a whole so that the intension of an immunization programme is not to get 100 per cent of the population vaccinated but to vaccinate a sufficient fraction to control disease[9].

Though the absence of reliable and vital statistics meant that most figures available especially on child morbidity and mortality represent only estimates which are largely

conjectural and based on clinical and field observation, yet the estimates revealed that a lot of children born never survived to celebrate their first birthdays[10] while the majority of them remaining are exposed to environmental factors that predisposed them to adverse conditions[11] resulting in ill-health. For example, malaria, pneumonia, gastroenteritis, malnutrition, pertussis, measles, poliomyelitis, tetanus and tuberculosis are still the main causes of death among Nigerian children[12]. In Ibadan, Nigeria, the incidence of tuberculosis among children was reported as 6.2 per 1,000[13] tetanus was estimated not less than 250 per million[14] and poliomyelitis was also known to be responsible for at least 100,000 cripples[15].

Analysis of medical admissions to Adeoyo State Hospital in Ibadan revealed that infections accounted for a high proportion of infants' hospitalization followed by digestive system diseases, while tetanus accounted for 72% deaths occurring among inpatients[16]. Harley[17] found that in a Yoruba village out of 2,774 children under 12 admitted to hospital in 1960, 397 died, and 178 of these deaths were due to measles. As part of the deliberations during the symposium on National health planning, Sotawu[18] observed that with the elimination of tetanus, smallpox, poliomyelitis and pulmonary

tuberculosis in the population at Lagos, and of measles and whooping cough in our children, our morbidity and mortality rates could be remarkably reduced, consequently the workload on our curative services will become less. Hence an attempt at identifying the major impediments to the expanded Programme on Immunization, apart from improving the health status in a community, would also help in reducing ill-health and thus lower the workload on the curative services in Nigeria with an inadequate doctor population ratio of 1:30,000[19].

The real crux of a vaccination programme is not the technicalities of the vaccines nor the ages at which to give them but that of persuading mothers to bring their children with sufficient regularity for satisfactory courses of immunization to be given[20]. In the initial contact made with the Chief Health Officer for Oyo State of Nigeria, Oni, who is also the Officer Incharge of the overall activity of the expanded programme on Immunization, declared that Oyo State appreciates the importance of immunization for children in particular and for the entire community in general. According to Oni the expanded programme on Immunization became fully operational in Oyo State in June 1976 on a permanent and continuous basis. Before the programme became fully operational there was an initial pilot project study at Irewole Local Government Area to thoroughly

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review the logistic of operation and difficulties to overcome from May 1975 to May 1976. Oni observed that there are three major difficulties in the operation of the programme:

(1) The coverage was extremely too low;

(2) Immunization was given to the wrong person i.e. the privileged;

(3) Defaulter rate was very high.

One of the major rationale of the expended immunization programme is to overcome the above constraints. It is also to make use of new knowledge gained from immunological research that the body reacts very well to multiple antigent given simultaneously.

Before the actual operation of E.P.I. in Oyo State, the following infant immunization practice was in operation:

(1) BCG - Given at Birth

(2) 1st DPT - Given at 3 months with 1st oral Polio.

(3) 2nd DPT - Given at 4 months with 2nd oral Polio.

(4) 3rd DPT - Given 5 months with 3rd oral Polio.

(5) Smallpox vaccine given at 6 months.

(6) Measles vaccine given at 8 months.

Oni was of the impression that the defaulter rate was very high because the expected number of contact with the child which should be six times is rather too much for the mothers to comply with.

However, with the E.P.I. the number of contact for immunization purposes is a maximum of 2, and all the vaccines required are fully given within the 2 contacts. Evidences exist to show that the reduction of number of contacts with the child has done very little to improve adequate response to the programme.[21]

TABLE 1A

OYO STATE EPI MOBILE TEAM PERFORMANCE*

Year	1st contact Antigen No. vaccinated	2nd contact No. vaccinated	% Drop
1975	16,713	3,829	78.35
1976	33,255	18,862	43.3
1977	148,529	99,076	33.3

(* Extracted from the Oyo State Annual Statistical Bulletin 1977.)

TABLE 18

OYO STATE EPI TEAM PERFORMANCE IN THE FIXED VACCINATION CENTRE

Year	1st Contact No. vaccinated	2nd contact No vaccinated	% Drop
1975	971	468	11.08
1976	19,811	8,059	59.32
1977	40,876	31,194	23.69
Total	61,661	39,721	35.58

(* Extracted from the Oyo State Annual Statistical Bulletin 1977).

TABLE IC

TRIPLE ANTIGEN VACCINATION MATERNAL AND CHILD WELFARE CENTRE, HOSPITALS AND RURAL HEALTH CENTRE IN OYO STATE OF NIGERIA

Zones	1st contact No vaccinated	2nd contact No vaccinated	3rd contact No vaccinated	% Drop in 2nd contact	% Drop in 1st contact
IBADAN/ IBARAPA Zones	23,638	19,123	4,667	19.1	81.3
Oshun Zones	8,791	6,978	2,780	20.6	68.4

(*Extracted from the Oyo State Annual Statistical Bulletin 1977)

Apart from the fact that figures in the 1977 Annual Statistical Bulletin indicate that public response to the Expanded programme on immunization went below expectations, there is also an observation that many children who were fortunate enough to receive the first contact were not brought back to receive the 2nd and 3rd contact immunizations. These figures fall below the expectations of the WHO, who have it as its responsibility to immunize children at its expense. This situation becomes more embarrassing when one thinks of the situation that a sufficient proportion of the susceptible population is not even immunized.

According to Standfield[22] the protection of

[70-80%] of the population should confer a kind of 'bonus' and an outbreak of an infection will not normally spread so easily.

This study is designed to seek out some major impediments to the utilization of the services of the expanded programme of immunization by attempting to examine all predisposing factors (e.g. attitudes, belief, value). Enabling factors (availability, accessibility) and reinforcing factors (support from family, peers, health providers) that precipitate the behavioural problems that cause the health problems. It will also attempt to take note of actual and potential factors that could impede the use of the services of the Expanded programme on Immunization. Recommendation will be made in the light of the findings as to the strategies of implementing an educational programme for the EPI.

CHAPTER TWO

LITERATURE REVIEW

Early emphasis in public health was devoted to the control of communicable diseases, improving sanitary conditions and the control of communicable diseases[23]. Studies on utilization of immunization services relate to health behavioural. As defined by Rosenstock[24], health behaviour is any activity which may be undertaken by a person who believes himself to be healthy, for the purpose of preventing disease or detecting disease in an asymptomatic stage. The utilization of medical services and facilities is affected by a large number of social and demographic factors. Furthermore utilization patterns are constantly changing under the impact of financial technological, educational and other societal development.

Analyzing the major findings of studies on patterns of use of preventive and detection services permits certain summary generalizations about the association of personal characteristics with the use of such services. In general, such services are used most by younger or middle aged people, by females, by those who are relatively better educated and have higher income (though perhaps not the very highest levels of education and income)[25]. It is commonly known that even when

Immunizations are true, higher income families show much better rate of protection than do poorer families. In Britain the lower classes have made less use of facilities for immunization and prevention[26]. The effects of social class and friends' expectations on participation in an oral poliovaccination programme were the focus of a study by Gray et al[27]. Their results indicated that what people believe their friends expected them to do has more influence on their participation in immunization programmes than belonging to a particular social class. According to the authors, one of the reasons why lower social class individuals tend to have lower immunization rates may be that there are more people in the upper and middle classes who believe their friends expect them to be immunized than there are in the lower socio-economic class. In Nigeria studies carried out at Ibadan by Adekunle[28] notes that 90% of children in the higher socio-economic group had complete immunization but in the middle class group, apart from smallpox, immunization against other diseases was very low especially for poliomyelitis where only 21.5% of children in that group were immunized. The same condition also applied for the native area where immunization are very low especially for Polio 15.1%, triple antigen 17% and measles 22%. An action programme designed to feed oral polio vaccine in a field trial to a quarter of million

persons under 40 years of age is reported by Reed[29] in the United states of America. The specific charge to Health Educators were / to concentrate on children under six years of age in the lower socio-economic groups.

Many researchers have found that the variable of educational status is a determinant on utilization of services. Working on factors affecting utilization of medical facilities by preschool age children Oyedipen[30] found that the educational status of mothers is positively related to the survival of her children. Adamugagun[31] associated level of Education with pattern and degree of utilization of health care. In Ibadan, Education most especially is a major factor in immunization because children belonging to illiterate mothers or mothers with only primary education are the groups with least complete immunization.

A study on the negative effect of time wasting on utilization of Health Services was carried out by Mechanic[32]. He observed that the greater the barrier to a particular facility, the more likely some other source of help will be chosen and that competing definition of the situation will be applied. He highlighted time and other factors as constituting barrier to health care utilization. Luft et al[33]

In the model of utilization said that the demand for health care is a function of many budgetary constraints including time prices. Rosenstock et al[34] observed that public health studies on immunization and preventive health services indicate that convenience is a factor affecting whether people seek vaccination. Such factors as the necessary distance to travel, the period of the day in which services are provided and the acceptability of the facilities from which such services are distributed affect receptability. And because most villagers are not prepared to come a longway for preventive medicine, successful community immunization depends upon taking the services to the people[35].

Orubuloye[36] conducted a study in two rural communities in Nigeria to determine the role of availability of medical services in relation to socio-economic characteristic. Findings showed evidence of greater frequency of use in one of the towns where hospital or maternity is located as compared with the other where no hospital or maternity is located near the people. One could therefore conclude that in some cases a definite approach to encourage people to utilize modern as opposed to traditional services is to build more health institutions in rural areas.

A lot of studies have been done on perception of threat of illness and consumers knowledge on the utilization of health services. In 1959, analysis of public response to

poliovaccinations, drawing on a number of independent investigations, Rosenstock et al[37] concluded that the variables perceived susceptibility, perceived severity, perceived benefits, safety and effectiveness of vaccines accounted for major portions of variation in seeking poliovaccination. Kegeles and Hirsch[38] attempted experimentally to increase people's readiness to follow preventive health practices by presenting them with messages about selected health problems that were intended both to increase their perceived susceptibility and/or severity regarding the health problems and their beliefs in the efficacy of professionally recommended behaviour. Significantly more persons exposed to such messages visited a physician for check up in the 18 months following experimental manipulation than in control group not exposed to the messages. The significant differences held only for visits made in the absence of symptoms of preventive health behaviour. This study incidentally provided evidence that it is possible that perceived susceptibility to and severity of illness as well as the perceived efficacy of professional intervention tend to precipitate changes in health behaviour. Iglewicz[39] attempted to influence response to a cholera immunization and educational programme in Nigeria and showed health workers particularly,

perceived vulnerability and knowledge of preventive measures were highly associated with response as were also several attitudes to prevention and correct knowledge of cholera. Inadequate knowledge about the complications after vaccination can also act as a barrier to vaccination. Prasada Rao[40], while carrying out his study on parental knowledge and attitude to smallpox vaccination in rural community of South India identified that fear of complication - previous experience of complication like gross ulceration after primary vaccination was responsible for poor coverage. The study also revealed that educational status of parents had no bearing on health knowledge like causation, spread and prevention of smallpox. Morgan[41], while studying the attitudes towards smallpox and measles in Morocco, Nigeria observed that people could not distinguish between measles and smallpox, tending to regard the former as physical illness but the latter as a manifestation of witchcraft. Respondents related smallpox to the weather by explaining that the smallpox spirits travel during the hot weather and is more likely to attack then; vaccination did not prevent smallpox but vaccination gives you power.

Various studies show that attitudes and beliefs of individual affect their willingness to take preventive health

behaviours. Rosenstock et al[42], observed that the attitudes and beliefs of individuals affect their willingness to take voluntary actions such as immunization and chest x-rays. Hingson[43], found that health belief measures taken prior to the immunization programme were positively and significantly related to whether or not respondents became aware of the programme and how early they ought to be immunized. He also observed that belief that a respondent could give birth to a child with tetanus was significantly related to receiving the second immunization and the total number of immunization respondents received. Belief that tetanus can kill infants was weakly but positively related to acceptance of the second immunization when measured after the first programme. He concluded that these beliefs change in response to immunization programmes and those changes can have an impact on subsequent immunization receptivity. In a pilot antimeasles campaign, Thacher[44] carrying out studies at Nsukka, Nigeria, observed that the people believe that it is a disease which can only be properly treated by local traditional methods and remedies and tend to consider medical therapy as useless for 2 main reasons (i) first they are convinced that "Chukwu", the High God or certain spirits, punish people by causing them

or their children to contact the disease and secondly, they have learned from experience that whenever children have been brought to the Health centre they usually die after treatment. The second belief may arise out of the fact that in most cases children are brought to the health centre only when traditional remedies have failed and when they have developed severe complications such as broncho-p-eumonia, diarrhoea, malnutrition and so on. Mead[45], while studying cultural patterns and technical change among the Tiv community of Nigeria observed that the principle of innoculation was consistent with Tiv ideas, since innoculation against smallpox was known and practiced before the arrival of the Europeans; however in some regions, when attempt were made to vaccinate the population during smallpox epidemic, the Tiv viewed the conditions and procedures involving vaccination as magically septic and feared exposing themselves to magical death. According to the Yoruba culture, the ideas about the prevention of illness run parallel with ideas about cure[46]. Many parents simply believe that immunization is for curing disease and not for prevention, and some believe in divine destiny and witchcraft and that diseases like polio smallpox, measles and tuberculosis occur in children not from failure to get child protected by "western medicine" but due to evils and witches that try to punish, not the child, but often

the parents by making the child incapacitated; thereby bringing an over lasting burden to the parents. The parents' punishment is seen in form of mental and physical agony arising from problems of rehabilitation[47]. The practice of preventive health behaviour has been known to have intrinsic value for our people. Innocuous practices such as wearing beads and bangles, rubbing the infant with oil, failing to name a child when it is first born has long existed in this part of the world[48]. The traditional healer in Yoruba land claim to provide protection, prevention of spread and curative measures through the complex use of drugs. In a study on the challenge of the co-existence of orthodox and traditional medicine in Nigeria, Ademuwagun[49] observed that the consumer consciously and rationally decides which particular health services to consult for a particular ailment even at the cost of having to do a lot of shopping around. It is also pertinent to note that the same study showed some indication that traditional healers are more competent at dealing with some health problems 'native' to the locality (e.g. malaria and yellow fever) than those which are foreign (e.g. tuberculosis and measles/chicken pox).

The Chief Health Officer for Oyo State is of opinion that the existence of traditional midwifery is constituting a major impediment to the utilization of expended programme of immunization

services. The institution of traditional midwifery had existed and still exist in different parts of the world. Imoagene[50] observed that it is one of the institutions that have least been interfered with by the ubiquitous forces of change in the African region. Although Ebigbola and Ilori[51] estimated that over 70% of the delivery in Nigeria was by indigenous midwives, a study carried out in four local council areas of south - Eastern State, Nigeria 1974 reported that 62.1% of the births in that area are conducted by birth attendants. The ministry of health annual statistical bulletin for 1974[52] in Oyo State of Nigeria recorded one-sixth or 16.5% of the estimated delivery for that year as having taken place outside health institutions. One could therefore say about 83.5% of deliveries took place outside health institutions. In this regard many mothers are not exposed to health knowledge as regards the services of the expanded programme of immunization.

A lot of studies have been done on the role of the family in decision - making on immunization services. The importance of the mother health decision-making was confirmed by Tyroler and his associates[53]. Response to an oral polio vaccine programme was comparatively related to acceptance by mothers, fathers and their children. The authors found that, in response

to the oral polio vaccine, the family functions as more than a collection of individuals, with the highest degree of concordance between mother and child. The investigators concluded that maternal decision-making in health affairs in family groups is primary and is equally strong across all social classes. Broken appointment/non compliance by mothers is one of the major problem that beset the expanded programme on immunization services. According to Oni, the defaulter rate is very high particularly on the part of the mother who fail to keep their appointment on the 2nd contact. Previous studies of broken appointment have concentrated primary upon factors related to the patients, with emphasis placed upon demographic characteristics such as socio-economic status, race, age, sex and educational level, with other factors such as attitudes towards health care and personality factors also noted[54]. Patients with lower educational status are generally known to be poorer keeper of appointments. In the light of the preceeding review of literature, this study was designed to investigate the different factors which impede consumers' utilization of the expanded programme of immunization services in Iriwole Local Government Area of Oyo State. The study also examines the motivation of the consumers concerned because each government has a duty to seek more effective measures in order to meet the peoples' needs.

Conceptual Framework

An investigation of consumers' behaviour towards immunization services inevitably entails an awareness of a perspective, which incorporates certain relevant features of the Health belief model. The need for this model should not be underestimated since such an approach helps to put these gamut of ideas and studies into a meaningful and proper perspective.

Certainly, the Health belief model would more than any other serve to put the process involved in the participation of immunization services in a proper framework. Immunization practices which primarily involve an individual's health behaviour is inevitably influenced or hindered by the individual's beliefs.

A number of health belief models abound in the literature. One of the most influential social-psychological approaches designed to account for the ways in which healthy people seek to avoid illness is the Health-Belief Model of Irvin Rosenstock[55] and his colleagues Becker[56].

The Health Belief Model is derived to a great extent from the theories of Kurt Lewin & other psychologists who believe that people exist in a life space composed of regions with both positive and negative valences (values). An illness would be a negative valence and would have the effect of pushing a person away from that region, unless doing so would cause the person to

enter another region, of even greater valence. While people are pushed away from the regions with negative valence, they are attracted toward the regions with positive valence. Thus a person's behaviour might be viewed as the result of seeking regions which offer the most attractive values.

Within this framework, human behaviour is seen as being dependent upon two primary variables (1) the values placed by a person upon a particular outcome. Accordingly, the Health Belief Model, shown in fig. 1, suggest that preventive action taken by an individual to avoid disease "X" is due to the particular individual's perception that he or she is personally susceptible and that the occurence of the disease would have at least some severe implications of a personal nature. The assumption in this model is that by taking a particular action, susceptibility would be reduced, or if the disease occurred, severity will be reduced. The perception of the threat posed by disease "X", however, is affected by modifying factors, which include demographic, socio-psychological, and structural variables which can influence both perception and the corresponding cues necessary to instigate action. Action cues are required says Rosenstock, because an individual may perceive that a given action will be effective in reducing the threat of disease, that action may not be taken if it is further defined as too expensive, too unpleasant or painful, too inconvenient or perhaps too traumatic (See fig. 1).

BROSENSTOCK AND BECKER MODEL[50]

(Fig 1)

INDIVIDUALS PERCEPTIONS

MODIFYING FACTORS

LIKELIHOOD OF ACTION

(1) Demographic variable (Age, etc)

(2) Socio-phychological variables (personality, social class, peer & reference group pressure

(3) Structural variables (Knowledge of disease, prior contact etc.

Perceived benefits of preventive action minus perceived barrier

Perceived susceptibility to disease "X". Perceived seriousness (severity of disease "X".

Perceived threat of disease X

Likelihood of taking recommended preventive health action

CUES TO ACTION

Mass media campaigns, advice from others, illness of family or friend, newspaper or magazine article

Another model that will be appropriate for this type of study is the Health Education Model of Green[59] In the light of the reality that this thesis aims at identifying the behavioural problems that affect consumers utilization of immunization services. It will also make recommendation for the different educational strategies that will help to improve consumers utilization of the services. Three factors, predisposing (knowledge, attitude, values, perception, norms) enabling (availability of resources, accessibility, referrals), and reinforcing factors (attitude and behaviour of health personnel) are viewed as antecedents to behavioural changes which are sought in preventive health programmes. These three factors would precipitate behavioural problems, the indicators of which are pattern of utilization, type of preventive actions, consumption pattern, and compliance.

The health education components of preventive health programme may be considered to include:

(1) Communications directed at the public and at patient and families to influence knowledge, attitude; belief and norms supporting health practice.

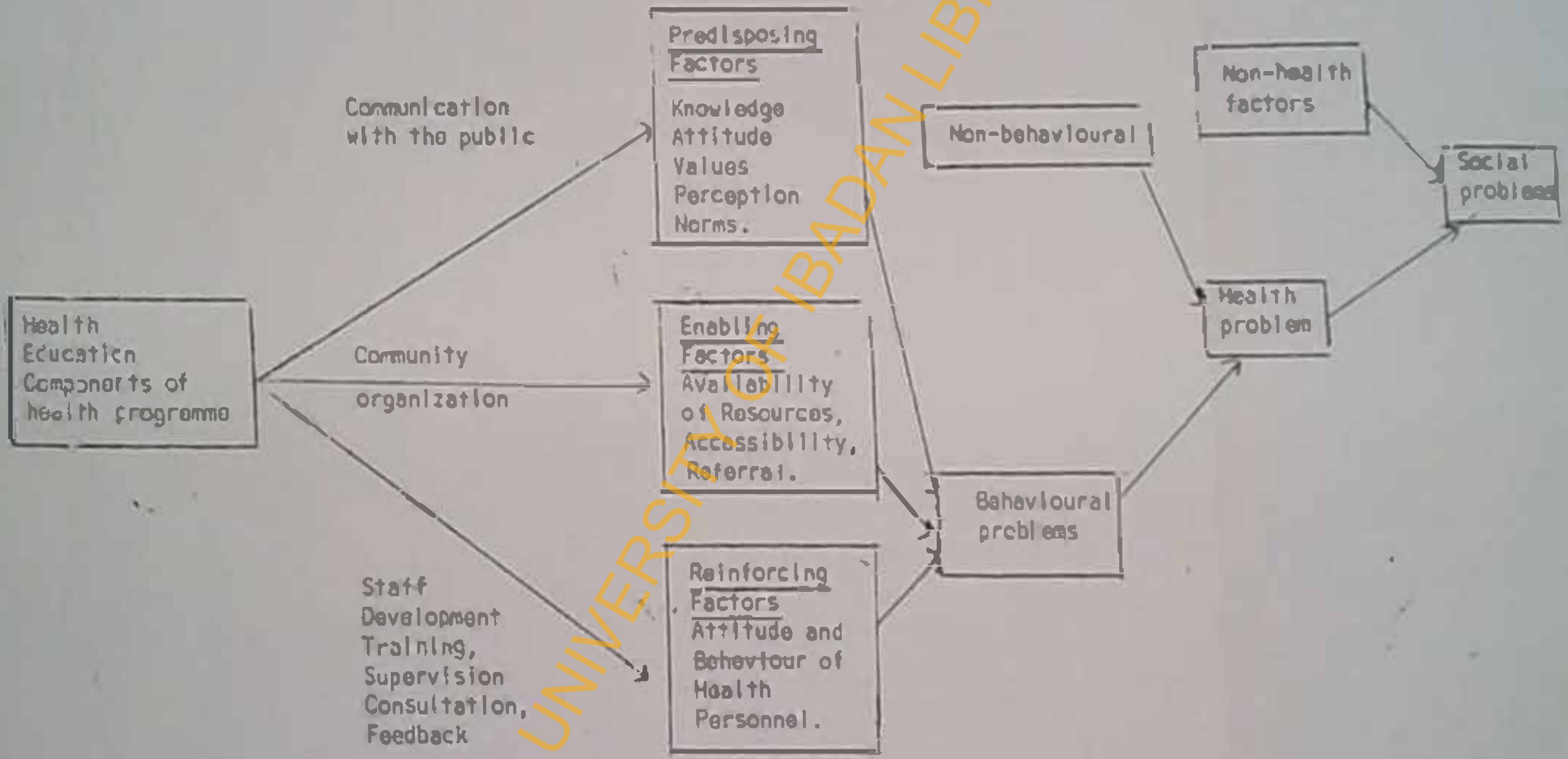
(2) Community organisation activities designed to influence the voluntary adjustment of resources to make health services more accessible and acceptable to the populations in need of these services.

(3) Staff development activities such as consultation, supervision, inservice training, and continuing education designed to influence the attitudes and behaviour of providers toward patients and clients so as to reinforce appropriate health behaviour in the public[60]. (See also. 11)

The common feature of these 3 modalities of health education, and therefore the defining characteristic of health education strategies, is that they are designed to bring about voluntary changes in health-related behaviour.

GREEN'S HEALTH EDUCATION MODEL[60]

(Fig. 11)



GREEN'S MODEL CONTD.

Behavioural Indicators	Vital Indicators	Social Indicators
Utilization	Morbidity	Illegitimacy Population
Preventive action	Mortality	Welfare
Consumption	Fertility	Unemployment
Compliance	Disability	Absentism.
Dimension	**Dimension**	**Alienation**
Earliness	Incidence	Hostility
Frequency	Prevalence	Discrimination
Quality	Distribution	Votes
Rang	Intensity	Riot
Resistance	Duration	Crime.

CHAPTER III

RESEARCH DESIGN

THE AREA OF STUDY

The study was carried out in the Alyedade community, comprising Ikiro, Apomu, and Ikoyi towns in Irewole Local Government Area of Oyo State. The study was carried out in this community because the initial pilot project on the Expanded Programme of Immunization in Oyo State started at Irewole Local Government Area between May 1975 and May 1976. Moreover no study of this nature has been carried out on the community since the inception of the programme.

Alyedade community is one of the three community groups making up the Irewole local government area of Oyo State. The other two communities being Orile-Owu community and Egbadora community.

Alyedade community area is about 35 Kilometres North East of Ibadan along Ibadan-Ife Road. Ikiro, one of the towns making up Alyedade community, is the headquarters of Irewole Local Government Council.

Alyedade community covers an area of about 13.90 sq. km. with a population of about 200,000 people.

The source of this information is Iwoolo local government council. The breakdown of the figures indicate the following:

	Population	Area
Ikiru	120,000	6.80 sq. km.
Apomu	50,000	4.70 sq. km.
Ikoyi	30,000	2.50 sq. km.

Selection of subjects and sampling procedure

The 300 Respondents in this study were all mothers who had babies since June 1976 when the expanded programme of immunization became fully operational in Oyo State. While children are the main target group for vaccinations, mothers and fathers are generally the most important target for education concerning immunization, as they are the persons brining the child for immunization (It is recognised that other persons may also perform this function).

The sample size of three hundred respondents was shared in the proportion of 12:5:3 representing Ikiru, Apomu and Ikoyi respectively, thus reflecting the weight of the population in each community. This has some effects of making the sample more representative (See Table 2a).

TABLE 2A

DISTRIBUTION OF SAMPLE OF SUBJECTS BY COMMUNITY AREA

Community	Sample Size	Percentage of total sample
Ikire	180	50%
Apomu	70	20%
Iwoye	40	11%

To further avoid the limitations of sampling and make the sample size more representative, the multistage sampling technique was employed in the three community areas.

At Ikire community there are seven wards made up of a total of 200 compounds and numerous houses built in rows and lines. A random sample of three wards was selected. Each ward has 30 compounds. Thus the wards selected in this sampling had a total of one hundred and fourteen compounds. A compound is made up of about 10 housing units. In each ward a compound was selected by random sampling. All houses in the selected compound were visited and the targets were households where there were women who had children since June 1976 when the immunization programme became fully operational in this locality. A household is a nuclear family consisting of a father and his wife or wives. A total of 180 mothers were

interviewed.

At Agomu there are 2 wards consisting of 60 compounds. Both wards were utilized for sampling purposes, and the same sampling technique at Ikiro was used. The final sampling units were 75 mothers who had children since the inception of the expanded programme of immunization programme in June 1976.

Ikoyi is made up of one ward with 38 compounds. The same sampling technique at Ikiro was used. The final sampling unit were 45 mothers who had children since the inception of the immunization programme in May 1976.

INSTRUMENT FOR DATA COLLECTION:

The instrument used for this study is a questionnaire designed for getting information on the knowledge, practice, and attitude of the community towards the expanded programme of immunization.

All the questions on attitudes had a five point response scale which included: strongly agree, agree, undecided, disagree and strongly disagree. Some of the questions on knowledge and practice of immunization were open ended questions while others were objective type of tests with multiple choice answers, one only of which is correct for each question given. Some of the questions on knowledge practice and attitude have yes, no, and don't know responses.

In developing the instrument, literature on consumer behaviour towards previous immunization services were taken into account and the questionnaire was designed to suit the literacy level of the consumers. In this regard, highly technical questions on immunization were omitted.

The instrument covered a knowledge test on the services rendered by the Expanded Programme on Immunization. It also covered the test of the utilization of the Expanded programme services and the attitude responsible for the behaviour. The questionnaires were administered to mothers who had children since the inception of the programme in June 1976.

INTERVIEWS

Apart from the distribution of the questionnaire, formal and informal interviews were held with the mothers; their husbands, the health workers, the Chief Health Officer in Oyo State; and the WHO Officer associated with the Expanded programme.

OBSERVATION: Some of the information was obtained through observation at the immunization centres.

PRE-TESTING:

The questionnaire were pre-tested with 60 respondents from the three communities, and the results proved that the consumers understood the questions.

TEST OF RELIABILITY

60 respondents were re-interviewed with the same questionnaires and their responses coincided with what obtained during the actual study.

LIMITATIONS OF STUDY

(1) Sample size:

The sample size was relatively small, thereby raising the possibility that the data might not totally represent the entire population.

(2) Communication barrier

Communication between the researcher and the respondents was a problem because the researcher is non-Yoruba speaking and majority of respondents were Yorubas and could not communicate in English. This necessitated the translation of the questionnaire to Yoruba language and the use of interviewers who could communicate with respondents. Although the interviewers were trained to administer the questionnaires to the respondents, there are some shortcomings that go with the use of interviewers and translators (1) it may be difficult to find a suitable substitute for some english words in Yoruba (2) interviewers may not be fluent enough in the dissemination of questions to respondents in such a way as to yield the appropriate response.

(3) Uncooperative attitude of the respondents

Most respondents bluntly refused to say the number of

DEFINITION OF TERMS USED IN THIS STUDY

Consumers:

In this study consumer refers to mothers who had children since the inception of the expanded programme of Immunization services in June 1976.

Complete Immunization:

Consumers who took their children for the two Immunization contact.

Incomplete Immunization

(Defaultors) refers to consumers who took their children for one contact of Immunization, and failed to keep appointment for the 2nd contact.

No Immunization

Refers to consumers who did not take their children for Immunization.

EPI: Stands for the expanded programme of Immunization

Vaccination and Immunization - Both words have been used interchangeably to mean the same in this study.

CHAPTER IV

Findings

This chapter presents data on selected demographic, knowledge and attitudinal characteristics of the study sample of mothers' in Alyedade community of Irewole Local Government Area of Oyo State. The Alyedade community is made of three villages - Ikiro, Agoru, and Ikoyi. The data came from 300 questionnaires administered to mothers in the area of study. 180 respondents were from Ikiro while 75 and 45 respondents were from Agoru and Ikoyi respectively.

Selected Demographic Characteristics

60% of respondents came from Ikiro, 25% came from Agoru 15% from Ikoyi.

(i) Religion

13% of Respondents belong to the traditional African Religion while 46.3% were moslems. 12.7% were of the syncretic churches (Evangelical Christ), 18% were Catholic while 10% were Protestants - (Table 3:3)

(ii) Age

11% of the respondents were less than 20 years old, while 35% were between the ages of 20-29 years, 28% were between 30-39 years old while only 6% were 40 years and above (See Table 3:2).

(iii) Mothers' level of Education

Of the 300 respondents 37.3% had no formal education, 31.7% had only primary education while 20.3% had secondary education. 7.3% had post-secondary education while only 3.3% had university education. (See Table 3:2)

(iv) Husbands' level of education

Of the 300 women respondents, 28% of their husbands had no formal education, 35% had primary education, 19% had secondary education. 11% of their husbands had other post-secondary education, while 7% had university education. (See Table 3:7)

(v) Mothers' occupation

13% of the respondents were farmers while 16% were teachers by profession. 28% of respondents were petty traders and petty businesswomen; 32% were full time housewives. Only 11% were professional civil servants by occupation. (See Table 3:5).

(vi) Husbands' occupation

Of the 300 women respondents 27% of their husbands were farmers, 10% were teachers, 11% were petty traders, 15% of them were civil servants, 13% were businessmen while 16% were craftmen. (See Table 3:8)

(vii) Place of child-delivery:

31% of respondents delivered their babies at home while only 30% delivered their babies at the Health Centre or Hospital. 12% delivered their children in the Spiritual Churches like Aladura, Celestial etc. 27% of respondents had their babies in the native healers' home (See Table 3:6)

Response of consumers' (mothers) to the expanded programme on immunization:

In the questionnaires administered were questions (appendix I) designed to test whether or not the mothers had ever taken their children for immunization. Table 3:1 shows the response of the three communities of the Alyekade community in the Ife-Ife Local Government Area, to the expanded immunization programme.

TABLE 3:1

THE DISTRIBUTION OF RESPONDENTS IN THE THREE COMMUNITIES ACCORDING TO THEIR TYPE OF RESPONSE TO IMMUNIZATION

Community	No. with complete Immunization		No. with* Incomplete Immunization		No. with no Immunization		Total	
	No	%	No	%	No	%	No	%
Ikire	63	35.0	18	10.0	99	55.0	180	60.0
Aporu	24	32.0	9	12.0	42	56.0	75	25.0
Iboyi	14	31.1	4	8.9	27	60.0	45	15.0
Total	101	33.7	31	10.3	168	56.0	300	100

* Defaulters.

χ^2 = 0.990; df 4; $p > 0.05$. Statistically insignificant.

Certain independent variables were used to elicit the factors that influence their response to the programme - they are:

(1) Their place of residence

(2) Religion

(3) Mothers' level of education

(4) Mothers' occupation

(5) Husbands' level of education

(6) Husbands' occupation

(7) Mothers' age

(8) Place of delivery of the mothers

Eight Hypotheses were developed to determine whether or not a statistically significant relationship existed between the dependent variables of pattern of response to the Immunization programme by consumers' and eight selected demographic independent variables such as:...

(1) Distance is a determining factor in the pattern of response to the expanded programme on Immunization.

(2) There is a significant difference in response to Immunization among mothers with different educational background.

(3) Different religious group exhibit different responses to Immunization.

(4) There is a difference among the various age groups, in the response of mothers to childhood immunization.

(5) There is a difference in the response to Immunization among the various occupational groups.

(6) Mothers' previous contact with modern maternity services influences their response to Immunization.

(7) There is a difference in response to immunization among mothers whose husbands have different educational background.

(8) There is a difference among mothers whose husbands' have different occupational affiliation in their response to immunization.

1. The Hypothesis that

"Distance is a determining factor to consumers' response to the expanded programme on immunization," was not statistically supported by the study data (X^2 = 0.997; df = p > 0.05) See Table 3:1.

Distance was not a determining factor on mothers taking their children for immunization. The two immunization centres are all located in their community. Consumers in Apomu have a distance of one and half kilometers to make before reaching the health centre. Consumers of Ikoyi make a distance of three and half kilometers before reaching the health centre.

2. The Hypothesis that

"There is a significant difference in response to immunization among mothers with different educational background."

was statistically supported by the study data.

There was a significant difference in response among mothers with different levels of education (X^2 = 49.543, df = 8, p < 0.101). See Table 3:2.

The number of mothers who took their children for complete immunization increased as the level of education went higher; 16% of mothers with no formal education who responded to the programme had complete immunization, while 31.6% of those with Primary education had complete. 55.7% of mother with Secondary education had complete immunization as against 59.1% and 60% of consumers with other post secondary and University education. The defaulter rate at immunization centre was highest among those with toehr post secondary education (31.) and lowest with mothers with University education (14.2%). 78.6% of mothers with no formal education did not go for immunization while 30% of those with University education did not have their childrod immunized.

3. The Hypothesis that

> " Different religious groups exhibit different responses to immunization."

TABLE 3:2

THE DISTRIBUTION OF RESPONDENTS PATTERN OF RESPONSE TO IMMUNIZATION AMONG THEIR EDUCATIONAL BACKGROUND

Level of education	No. with complete immunization		No. with * incomplete immunization		No. with no immunization		Total	
	No	%	No	%	No	%	No	%
No formal education	18	16.0	6	5.4	88	78.6	112	37.3
Primary education	30	31.6	8	8.4	57	60.0	95	31.7
Secondary education	34	55.7	10	16.4	17	27.9	61	20.4
Other post secondary education	13	59.1	6	27.3	3	13.6	22	7.3
University education	6	60.0	1	10.0	3	30.0	10	3.3
Total	101	33.7	31	10.3	168	56.0	300	100

* Defaulters

$\chi^2 = 49,543$; df = 8; $p < 0.01$

was statistically supported by the study data. There was a significant difference in response among the moslem, Catholic, Syncretic church members and those who practise the traditional Nigerian Religion. (X^2 = 37.29; df = 8 p < 0.05) See table 8:3.

While there was generally poor response among all groups certain groups were significantly less likely to have immunization. Those who practice the traditional religion had the highest defaulting rate of 63.2% and a no response rate of 51.3%. Protestants had a poor response rate and a low defaulting rate at immunization centres. Generally, syncretic church respondents had a very poor turn out at the immunization centres (80% had no immunization, defaulting rate of 25% and only 7.5% of syncretic church members who had immunization completed the prescribed dosage.)

TABLE 3:3

THE DISTRIBUTION OF MOTHERS' RESPONSE AMONG THEIR DIFFERENT RELIGOUS AFFILIATION

Religion	Complete Immunization		Incomplete Immunization		No Immunization		Total	
	No	%	No	%	No	%	No	%
Traditional Nigerian	7	17.9	12	30.8	20	51.3	39	13.0
Moslem	60	43.2	10	7.2	69	49.6	139	46.3
Syncretic Churches	3	7.9	1	2.6	34	89.5	38	12.7
Catholic	15	45.5	3	9.0	15	45.5	33	11.0
Protestant	16	31.4	5	9.8	30	58.8	51	17.0
Total	101	33.7	31	10.3	168	56.0	300	100

* Defaulters

$x^2 = 37.29$; df = 8 $p < 0.05$ (Statistically significant)

The Hypothesis that

"There is a difference in the response of mother to immunization among the various age groups" was not statistically supported by the study data. Age was not found to be statistically significant in their response to immunization (X^2 = 5.735; df = 6 $p > 0.05$)

TABLE 3:4

THE DISTRIBUTION OF THE RESPONSE TO CHILD IMMUNIZATION AMONG DIFFERENT AGE GROUPS

	Complete Immunization		*Incomplete Immunization		No Immunization		Total	
	No	%	No	%	No	%	No	%
Less than 20	6	18.8	5	15.6	21	65.6	32	10.7
20-29	54	32.9	18	11.0	92	56.1	164	54.7
30-39	34	40.0	6	7.1	45	52.9	85	28.3
40 and above	7	36.8	2	10.5	10	52.6	19	6.3
Total	101	33.7	31	10.3	168	56.0	300	100

* Defaulters

(X^2 = 5.735; df 6 $p > 0.5$)

(Not statistically significant)

The hypothesis that

> "There is a difference in response to immunization among the various occupational groups".

was statistically supported by the study data. There is a fairly high statistical difference in the pattern of response to immunization among mothers' occupational affiliation (X^2 = 33.46; df = 8, $p < 0.01$) (See Table 3:5).

Farmers had the greatest defaulting rate of 80%; followed by petty traders with 45.8%, and civil servants had a defaulting rate of 33.3%. Teachers and full-time housewives had a low defaulting rate of 11.5% and 5.6% respectively. It is also necessary to note that only 4% of farmers who had immunization at all had complete immunization while only 12% of civil servants had complete. Teachers and full-time housewives again topped the list of mothers who had complete immunization with 47.91% and 53.1% respectively. Only 15% of petty traders had complete immunization.

The Hypothesis That "Mothers' previous contact with modern maternity services influences their response to immunization".

was supported by the study data. There is a high statistically significant difference in response to immunization and mothers' normal delivery place. See table 3:6 (X^2 = 53.555 df = 6 $p < 0.01$. Those who delivered in the native healers'

TABLE 3.5

THE DISTRIBUTION OF MOTHERS' RESPONSE TO IMMUNIZATION AND MOTHERS' OCCUPATION

Occupation	Complete Immunization		*Incomplete Immunization		No Immunization		Total	
	No	%	No	%	No	%	No	%
Farmer	2	5.0	8	20.0	30	75.0	40	13.3
Teacher	23	47.9	3	6.3	22	45.8	48	16.0
Petty Trader	13	15.6	11	13.3	59	71.1	83	27.7
Housewife	51	53.1	3	3.1	42	43.8	96	32.0
Civil Servant	12	36.4	6	18.2	15	45.5	33	11.0
Total	101	33.7	31	10.3	168	56.0	300	100

* Defaulters.

($X^2 = 53.466$; $df = 8$ $p < 0.01$)

(Statistically significant)

place had a 44.4% defaulting rate, followed by those who delivered their babies at home with a defaulting rate of 25%. Mothers who delivered in the spiritual churches have a defaulting rate of 25%. Those who delivered their babies in the Health Centre had the lowest defaulting rate of 13.1%. 89% of mothers who delivered in the spiritual churches did not take their babies for immunization while 56.25% of those who delivered at home failed to have their children immunized. It is also important to observe that 66.7% of mothers who deliver at the native healers' home failed to have their children immunized while only 31.5% of mothers' who deliver in the government health centre failed to immunize their children. There is also a significant difference in having complete immunization and the place of delivery of babies; 30% of those that delivered at home had complete immunization 53% of those at the health centre had complete while only 7.9% of those that delivered in the spiritual churches had complete immunization. Only 18.5% of those that delivered in the native healers' home had complete immunization.

The Hypothesis that

> "There is a difference in Response to immunization among mothers whose husbands have different educational background".

TABLE 3:6

THE DISTRIBUTION OF RESPONSE TO IMMUNIZATION AND MOTHER'S USUAL DELIVERY PLACE

Normal Place of delivery	Complete Immunization		Incomplete Immunization		No Immunization		Total	
	No	%	No	%	No	%	No	%
At Home	30	32.6	10	10.9	52	56.5	92	30.6
Hospital/ Health Centre	53	59.6	8	9.0	28	31.5	89	29.7
In the Spiritual Church	3	7.9	1	2.6	34	89.5	38	12.7
In the Native Healer's Home	15	18.5	12	14.8	54	66.7	81	27.0
Total	101	33.7	31	10.3	168	56.0	300	100

(x^2 = 53.535; df = 6; $p < 0.01$)

(Statistically significant)

TABLE 3:7

DISTRIBUTION OF RESPONSE TO IMMUNIZATION AMONG RESPONDENTS WHOSE HUSBANDS HAVE DIFFERENT LEVELS OF EDUCATION

Husband's level of education	Complete Immunization		Incomplete Immunization		No Immunization		Total	
	No	%	No	%	No	%	No	%
No formal education	17	20.2	6	7.2	61	72.6	84	28.0
Primary education	29	27.9	4	3.8	71	68.3	104	34.7
Secondary education	25	51.8	3	[illegible]	19	33.9	56	18.7
Other post-secondary education	16	45.7	9	25.7	10	28.6	35	11.6
University education	10	47.6	4	19.1	7	33.3	21	7.0
Total	101	33.7	31	10.3	168	56.0	300	100

* Defaulters

χ^2 = 47.66 [illegible] $p < 0.01$

(Statistically significant)

was supported by the study data. There is a high statistically significant difference in response to immunization among mothers whose husbands have different levels of education. (χ^2 = 47.662; df = 8; $p < 0.01$). See table 3:7. The defaulting rate at immunization ranged from 12.62% for those with primary education to 36% for other post secondary education. The difference between the various groups were not much. There was however a wide range (72.6% - 28.6%) in percentage in those who did not go for immunization. Husbands with no formal education had 78% of their wives not taking the children for immunization while husbands with primary education had 68.3% of their wives not taking their children for immunization. Husbands with secondary, other post secondary and university education had 33.93%, 28.6% respectively of their wives not taking their children for immunization.

The Hypothesis that

> "There is a difference in response to immunization among mothers whose husbands have different occupational affiliation".

was supported by the study data. There is a slight statistically significant difference between response to

TABLE 3:8

THE DISTRIBUTION OF THE PATTERN OF RESPONSE ACCORDING TO THE OCCUPATION OF THEIR HUSBANDS

Husbands' occupation	Complete Immunization		*Incomplete Immunization		No Immunization		Total	
	No	%	No	%	No	%	No	%
Farmer	19	24.1	8	10.1	52	65.8	79	26.3
Teacher	27	50.0	2	3.7	25	46.3	54	18.0
Petty trader	14	42.4	4	12.1	15	45.5	33	11.0
Civil servant	21	45.7	6	13.0	19	41.3	46	15.4
Business man	5	12.8	6	15.4	28	71.8	39	13.0
Craftsman	15	30.6	9	10.2	29	59.2	49	16.3
Total	101	33.7	31	10.3	168	56.0	300	100

* Defaulters

$\chi^2 = 24.568; df = 10; p < 0.01$.

immunization and husbands' occupation. Table 3:8

$(X^2 = 26.348; df. = 10 \quad p < 0.01)$. The defaulting rate among the respondents, is highest among civil servants' businessmen at the rate of 34.5% and it is lowest among Teachers' wives. Also wives of businessmen have the highest failure in taking their children for immunization (17.2%) closely followed by farmers' wives with 15.8%

Knowledge of Respondents of the Extended Programme on Immunization Services

A number of questions were set in the questionnaire to test the knowledge of the respondents of the expended programme on immunization services. Their knowledge of immunization was compared with their pattern of response to immunization. A number of hypothesis were drawn to help elicit the effect of knowledge on the consumers' response. They are:

(i) There is no correlation between consumers' knowledge of immunization and the consumer's response as to complete immunization or no immunization.

(ii) There is no correlation between knowledge and consumer's response as to completed or incomplete immunization.

(3) There is no correlation between knowledge and consumers response as to incomplete or no immunization.

The Hypothesis that

> "There is no correlation between consumers' knowledge of immunization and consumers response as to complete or no immunization.

was not supported by the study data. There is reason to reject the Hypothesis that there is no correlation between consumers' knowledge of immunization and their utilization or no utilization of the services. Table 4:1 (rbi = 0.45, at 1% or 0.01 level of confidence, it is greater than the expected value of 2.576). There is a fairly high statistically significant correlation between consumers' knowledge of immunization and their utilization or rejection of immunization services.

57.4% of consumers who had complete immunization secored 50% or above, while only 10.7% of consumers with no immunization had a fair knowledge test score of 50% and above. It is pertinent to note that 89.2% of consumers' without immunization had less than 50% in the knowledge test score while only 42.5% of those with complete immunization had less than 50%.

The Hypothesis that

> "There is no correlation between knowledge and consumers response as to complete or incomplete immunization, was supported by the study data.

TABLE 4:1

DISTRIBUTION OF RESPONDENTS IN KNOWLEDGE TEST SCORES AMONG CONSUMERS WITH COMPLETE OR NO IMMUNIZATION

Respondents knowledge test score	Respondents with complete immunization		Respondents with no immunization		Total
	No	%	No	%	No
90 - 99	3		2		5
80 - 89	3		2		5
70 - 79	6	57.4	4	10.7	10
60 - 69	11		5		16
50 - 59	35		5		40
40 - 49	28		41		60
30 - 39	9		17		26
20 - 29	3	42.6	4	89.3	7
10 - 19	2		58		60
0 - 9	1		30		31
Total	101	37.5	168	62.5	269

$r = 0.45 \pm 2.576 \times 0.007$ at 1% Level of confidence

(Statistical correlation demonstrated)

There is reason to accept the hypothesis. There is no statistically significant correlation between knowledge and consumers response as to complete or incomplete immunization. See table 4:2. (r_{bi} = biserial correlation coefficient = 0.0830 < 2.576 x 0.095 at 1% level of confidence.

38% of consumers with incomplete immunization had knowledge test score of above 50% while 57.4% of those with complete immunization scored above 50%.

TABLE 4:2

DISTRIBUTION OF RESPONDENTS IN KNOWLEDGE TEST SCORE AMONG RESPONDENTS WITH COMPLETE AND INCOMPLETE CHILD IMMUNIZATION

Kr Knowledge Test Score	Complete Immunization		Incomplete Immunization		Total
	No	%	No	%	No
90 - 99	3		1		4
80 - 89	3		2		5
70 - 79	6	57.4	1	38.7	7
60 - 69	11		3		14
50 - 59	35		5		40
40 - 49	28		2		30
30 - 39	9		4		13
20 - 29	5	42.6	6	61.3	9
10 - 19	2		4		6
0 - 9	1		3		4
Total	101	76.5	31	23.5	132

r_{bi} = 0.0830 < 2.576 x 0.095 at 1% level of confidence
No statistical correlation

The Hypothesis that

> "There is no correlation between knowledge of immunization and consumers' response as to incomplete or no immunization."

was not supported by the study data. There is no reason to accept the hypothesis that there is no correlation between knowledge of immunization and consumers' response as to no immunization or incomplete immunization. There is a statistically significant correlation between knowledge of immunization and consumers' responses as to incomplete or not immunization. (See table 4.3) rbi = 0.31 > 2.576 x 0.0464. at 1% level of confidence.

It is necessary to note that 39.70% of respondents with incomplete immunization scored above 50% while only 10.7% of consumers with no immunization scored 50%.

TABLE 4:3

DISTRIBUTION OF RESPONDENTS IN KNOWLEDGE TEST SCORES ABOUT CONSUMERS WITH INCOMPLETE OR NO IMMUNIZATION

Knowledge Test Score	Incomplete Immunization		No Immunization		Total
	No	%	No	%	No
90 - 99	1		2		3
80 - 89	2		2		4
70 - 79	1	38.7	4	10.7	5
60 - 69	3		5		8
50 - 59	5		5		10
40 - 49	2		41		43
30 - 39	4		17		21
20 - 29	6	61.3	4	89.3	10
10 - 19	4		58		62
0 - 9	3		30		33
Total	31	16.2	168	83.8	191

C_{bl}: $-0.31 \pm 2.576 \times 0.0464$ at 1% level of confidence

(Statistically significant.)

Attitudes/Opinions of respondents towards the programme

Six statements were in the questionnaire to determine the consumers' attitude toward the efficacy of the vaccines. The statements are:

(1) Traditional healers are more competent at protecting children against infectious diseases.

(2) Children get infections from immunization vaccines like Polio, Measles.

(3) Child immunization is a health insurance against common infectious diseases.

(4) Religious healers protect a child better than immunization at the health centre.

(5) I prefer to immunize my child than to allow the child fall sick.

(6) Hospital immunization don't protect my child. The selected immunization attitudes were classified into two types:

(i) positive attitudes that tend to support immunization i.e. statement Nos 1,2,4,6.

(ii) Negative attitudes that do not tend to support immunization i.e. statement Nos. 1,2,4,6.

Marks were awarded. Respondents scored a maximum of 5 marks and a minimum of one mark. Scoring was done according to the table 5:1

TABLE 5 : 1

METHOD OF RANKING OF RESPONDENTS IN ATTITUDES SCORE

Positive attitude

Strongly agree	Agree	Undecided	Disagree	Strongly disagree
5	4	3	2	1

Negative attitude

Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

Score ranged between 6 - 30 with 18 as midpoint. Score above 18 points tends toward a positive attitude toward the efficacy of the vaccines and below 18 points leans to negative attitude.

The hypothesis tested is that there is a difference between attitudes of consumers'

(1) That have different educational background,

(2) That have different religions affiliation,

(3) That had complete, incomplete or no immunization

(4) That have different occupation.

The hypothesis that

> "There are differences in attitude of consumers' that have different religions affiliation".

was statistically supported by the study data. There is a high statistically significant difference in attitudes towards the efficacy of the vaccine between consumers of different religions. $F = 10.21$ df $= 3/295$ $p < 0.01$. See table 5.2 The mean score for catholic, protestant, moslem, were 20.696, 20.922, 19.640 respectively which were above the 18 midpoint for positive attitude. The mean score for traditional religions and syncretic church members were 14.154 and 14.553 which is quite below the 18 midpoint thus indicating a negative attitude towards the efficacy of the vaccine.

The Hypothesis that

> "There is a difference in consumers' attitude to the efficacy of the immunization vaccine and their pattern of response to the immunization programme".

The hypothesis tested is that there is a difference between attitudes of consumers'

(1) That have different educational background,

(2) That have different religions affiliation,

(3) That had complete, incomplete or no immunization

(4) That have different occupation.

The Hypothesis that

> "There are differences in attitude of consumers' that have different religions affiliation".

was statistically supported by the study data. There is a high statistically significant difference in attitudes towards the efficacy of the vaccine between consumers of different religions. $F = 10.21$ $df = 3/295$ $p < 0.01$. See table 5.2 The mean score for catholic, protestant, moslem, were 20.696, 20.922, 19.640 respectively which were above the 18 midpoint for positive attitude. The mean score for traditional religions and syncretic church members were 14.154 and 14.553 which is quite below the 18 midpoint thus indicating a negative attitude towards the efficacy of the vaccine.

The Hypothesis that

> "There is a difference in consumers' attitude to the efficacy of the immunization vaccine and their pattern of response to the immunization programme".

TABLE 5:2

ANALYSIS OF VARIANCE OF SOCIAL DISTANCE AND RELIGIOUS AFFILIATION

Source of Variation	Degree of Freedom of	Sum of Squares	Mean Square	Computed f.
Consumur	4	749.28	187.32	10.21
(Residual) (Error)	295	5412	18.32	
Total	299	6162.28		

F = 10.21 df = 4/295 $p < 0.01$. (significant)

Mean Score

Catholic = 20.696

Protestant = 20.922

Moslem = 19.640

Traditional Religion = 14.553

Syncretic = 14.154

was statistically supported by the study data. There is a high statistically significant difference in attitude towards the efficacy of the vaccine and their pattern of response to the immunization programme. (F = 13.94; df = 2/297 $p < 0.01$. Table 5:3). The mothers that had complete immunization showed a positive attitude with a mean score of 25.138 while mothers with incompete immunization had a negative attitude with a mean score of 16.968. Consumers' without immunization for their children had a negative attitude toward the potency of the vaccine with a mean score of 15.00.

TABLES 5:3

ANALYSIS OF VARIANCE OF BELIEF IN VACCINE EFFICACY AND PATTERN OF IMMUNIZATION

Source of variation	Degree of freedom (df)	Sum of squares	Mean Square	Computed F value
Consumers	2	528.8	264.4	13.9-
Residual (Error)	297	5633.48	18.97	
Total	299	6162.28		

F = 13.94; df = 2/297; $p < 0.01$; statistically significant.

Mean Score

Complete immunization = 25.138

Incomplete immunization = 16.968

With no immunization = 15.00

The hypothesis that:

"There is a difference in consumers' opinion towards the Efficacy of the vaccine among the various occupational groups".

was not statistically supported by the study date. There is no difference in consumers' attitude toward the efficacy of the vaccine and their occupation (t = 0.021 df = 4/295; P > 0.05. See table 5:41

TABLE 5:1

ANALYSIS OF VARIANCE OF BELIEF IN VACCINE EFFICACY AND OCCUPATIONAL AFFILATION

Source of variation	Degree of freedom (df)	Sum of squares	Mean square	Computed t value
Consumer	4	1.1828	0.2957	0.014
Residual (Error)	295	6161.092	20.89	
Total	299	6162.28		

F = 0.014 df = 4/295 p > 0.05; not significant.

Mean Scores

Farmer = 18.675
Teacher = 18.395
Petty trader 18.919
Housewife 18.531
Civil servant = 18.363

All occupational groups had a mean score of above 18 indicating a positive attitude towards the efficacy of the vaccine. This is an indication that the default or non compliance of consumers in the various professional groups does not stem from their attitude toward the efficacy of the vaccine.

The Hypothesis that

> "There is a difference in consumers' opinion toward the efficacy of the immunization vaccine among consumers with different educational background".

was statistically supported by the study data. There is a slight significant difference in consumers' opinion toward the efficacy of the vaccine and their Educational background ($F = 7.623$ $df = 4/295$ $p < 0.01$, see table 5:51. There are indications that consumers with no formal education and Primary education had a negative attitude towards the efficacy of the vaccine with a mean score of 15.04 and 16.53 respectively. Consumers with secondary education, other post secondary and university education have an increasing positive attitude toward the efficacy of the vaccine with 24.60, 25.63 and 26.50 respectively. The statement that "Immunization Centre

TABLE 5:5

ANALYSIS OF VARIANCE OF BELIEF IN VACCINE EFFICACY AND EDUCATION BACKGROUND

Source of variation	Degree of freedom (df)	Sum of squares	Mean square	Computed f
Consumer	4	577.28	144.320	7.623
Residual Error	299	5585	18.9322	
Total	299	6162.28		

F = 7:623; df = 4/295 p < 0.01

Mean Scores

(1) No formal education = 15.04

(2) Primary education = 16.53

(3) Secondary education = 24.36

(4) Other post-secondary education = 25.53

(5) University education = 26.5

is located at a place physically accessible to all" was explored against the response of the consumers to the programme, education, and the place of residence (location) of the respondents. Three hypothesis were formulated to test the authenticity of the attitudinal statement. They are,

(1) There is a difference in the attitude of consumers to the physical location of the Health Centre among people of various educational background.

(2) There is a difference in attitude of consumers to the location of the Health Centre among respondents in Ikire, Apomu and Ikoyi.

(3) Consumers' who had complete, incomplete or no immunization have different attitude toward the location of the Health Centre.

The Hypothesis that

> "There is a difference in the attitude of the respondents to the location of the Health Centre among mothers of various educational background"-

was statistically supported by the study data. There is a high statistically significant difference in the attitude of the consumer to the location of the Health Centre and their educational background (X^2 = 94.729 df = 16 $p < 0.01$. See Table 6:1. The higher the level of education the more the respondents

TABLE 6:1

THE DISTRIBUTION OF OPINION ABOUT THE LOCATION OF THE HEALTH CENTRE AMONG RESPONDENTS WITH DIFFERENT EDUCATIONAL BACKGROUND

Level of education	Strongly agree		Agree		Undecided		Disagree		Strongly disagree		Total
	No	%	No	%	No	%	No	%	No	%	No
No formal education	10	8.2	28	23.0	11	9.0	21	17.3	42	34.5	122
Primary education	5	5.2	3	3.2	4	4.2	43	45.3	40	42.1	95
Secondary education	20	22.8	5	8.2	3	4.9	1	1.6	32	52.5	61
Other post secondary education	2	9.1	3	13.6	-	0	3	13.6	14	63.9	22
University education	-	-	1	10.0	-	0.0	1	10.0	8	80.0	10
Total	37	12.3	40	13.3	18	6.0	69	23.1	136	45.3	300

$\chi^2 = 94.73$; df = 16; $p < 0.01$ (Statistically significant)

tend to strongly disagree that the health centre is located in a place physically accessible to all. A large number of the respondents are of the opinion that the location of the health centre is not physically accessible to all. See table 6:1. Consumers who are closur to the Health centre agreed more that the centre is well located.

The Hypothesis that:

> "There is difference in the attitude of consumers living in Ikire Apomu and Ikoyi to the location of the Health centres".

was statistically supported by the study data. There is significant difference in consumers attitude towards the physical accessibility of the Health centre (X^2 = 23.71 df = 8 $p < 0.01$. See table 6:2) 48%, 35% and 51% of consumers' at Ikire, Apomu and Ikoyi respectively were of the opinion that the Health centre is not located at a place physically accessible to all. Only 25.7% of the respondents in the 3 areas are of the opinion that the Health centre is well located.

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The hypothesis that:

> "There is difference in the attitude of consumers living in Ikiro Apomu and Ikoyi to the location of the Health centres".

was statistically supported by the study data. There is significant difference in consumers attitude towards the physical accessibility of the Health centre (X^2 = 23.71 df = 8 $p < 0.01$. See table 6:2) 48%, 35% and 51% of consumers' at Ikiro, Apomu and Ikoyi respectively were of the opinion that the Health centre is not located at a place physically accessible to all. Only 25.7% of the respondents in the 3 areas are of the opinion that the Health centre is well located.

TABLE 6:2

THE DISTRIBUTION OF OPINION ON THE LOCATION OF THE HEALTH CENTRE AMONG RESPONDENTS WHO LIVE IN IKIRE, APOMU AND IKOYI

Residence	Strongly agree		Agree		Undecided		Disagree		Strongly disagree		Total
	No	%	No	%	No	%	No	%	No	%	No
Ikire	21	11.7	30	16.8	12	6.7	26	14.4	87	48.4	180
Apomu	8	10.7	6	8.0	4	5.3	31	41.3	26	34.7	75
Ikoyi	4	8.9	4	8.9	2	4.4	12	26.7	23	51.1	45
Total	37	12.3	40	13.3	18	6.0	69	23.0	136	45.4	300

$\chi^2 = 25.71$; df = 8; $p < 0.01$

(Statistically significant)

The hypothesis that

"Respondents who had complete, incomplete or no immunization have different attitude toward the location of the immunization centre"

was statistically supported by the study data. There is a statistically significant difference in attitude among consumers' who had complete, incomplete or no immunization ($\chi^2 = 26.893$; df = 8; $p < 0.01$)

See table 6:3 53.6% of respondents who had no immunization for their children were of the opinion that the Health centre is not located in a place physically accessible to all consumers, while 30% of respondents who had complete immunization were of the view that the Health centre is no well located. 51.6% of respondents who had incomplete immunization are of the opinion that the Health centre is not well located.

TABLE 6:3

THE DISTRIBUTION OF OPINION TOWARDS THE LOCATION OF THE HEALTH CENTRE AMONG RESPONDENTS WHO HAD COMPLETE, INCOMPLETE AND NO IMMUNIZATION

No of respondents	Strongly agree		Agree		Undecided		Disagree		Strongly disagree		Total
	No	%	No	%	No	%	No	%	No	%	No
With complete immunization	23	22.8	19	18.8	5	5.0	24	23.8	20	19.8	101
With incomplete immunization	4	12.9	4	12.9	2	6.5	5	16.1	16	51.6	31
With no immunization	10	6.0	17	10.1	11	6.5	40	23.8	90	53.6	168
Total	37	12.3	40	13.3	18	6.0	69	23.0	136	45.4	300

$x^2 = 26.893$ df 8 $p < 0.01$

Statistically significant

The statement that "Immunization day in the Health centre is convenient" was also explored against response to immunization, occupation and place of residence. Three hypothesis were formulated to help in the study.

(1) Respondents who had complete, incomplete or no immunization have different attitudes as regards the suitability of the day of the week immunization is administered.

(2) There is a difference in opinion about the suitability of the day of the week on which immunization is administered among the different occupational groups.

(3) Respondents who live in Ikire, Apomu, and Ikoyi have different attitudes as regards the suitability of the day of the week immunization is administered.

The Hypothesis that:

> "Respondents who had complete, incomplete or no immunization have different attitudes as regards the suitability of the day of the week immunization is administered".

was statistically significant. Consumers who had complete, incomplete, or no immunization have different attitude as regards the suitability of the day of the week immunization is administered - (X^2 = 150.851 df = 8 p < 0.01. See table 7:1).

54% of the consumers disagreed that immunization day at the Health centre is convenient to them. Of this number 14% had immunization, 71% had incomplete and 82% had no immunization.

TABLE 7:1

THE DISTRIBUTION OF RESPONDENTS OPINION ABOUT THE SUITABILITY OF THE IMMUNIZATION DAY AMONG CONSUMERS WHO HAD COMPLETE INCOMPLETE OR NO IMMUNIZATION

Type of Response	Strongly agree		Agree		Undecided		Disagree		Strongly disagree		Total
	No	%	No	%	No	%	No	%	No	%	No
Complete	51	50.5	22	21.8	10	9.9	11	10.9	7	6.9	101
Incomplete	3	9.7	2	6.4	1	3.2	7	22.6	18	58.1	31
No Immunization	11	10.5	4	3.8	4	3.8	37	35.2	49	46.7	105
Total	65	27.4	28	11.8	15	6.3	55	23.2	74	31.3	237

$X^2 = 150.851$ df = 8 $P < 0.01$.

The Hypothesis that

> "There is a difference in opinion about the suitability of the day of the week on which immunization is administered among the different occupational groups"

was supported by the study data. There is a difference in attitude about the suitability of the day of the different occupational groups (X^2 = 100.97 df = 16 $p<0.01$. See table 5:2. 54% of the consumers disagree about the suitability of the day of the week on which immunization is administered while only 40% agree about the suitability of the day of the week.

TABLE 7:2

THE DISTRIBUTION OF RESPONDENTS OPINION ABOUT THE SUITABILITY OF THE DAY OF THE WEEK ON WHICH IMMUNIZATION IS ADMINISTERED AMONG THE OCCUPATIONAL GROUPS

Occupation	Strongly agree		Agree		Undecided		Disagree		Strongly disagree		Total
	No	%	No	%	No	%	No	%	No	%	No
Farmer	2	6.7	5	16.6	3	10.0	14	46.7	6	20.0	30
Teacher	15	40.5	3	8.2	5	13.5	5	13.5	9	24.3	37
Petty Trader	10	13.3	2	2.7	1	1.3	24	32.0	38	50.7	75
housewife	37	56.1	14	21.2	2	3.0	2	3.0	11	16.7	66
Civil Servant	1	2.6	14	35.9	4	10.3	10	25.6	10	25.6	39
Total	65	26.3	38	15.3	15	6.1	55	22.3	74	30.0	237

x^2 = 100.95; df = 16 $p<0.01$.

The Hypothesis that:

"Consumers' who live in Ikiro, Apomu and Ikoyi have different attitudes as regards the suitability of the day of the week immunization is administered"

was not supported by the study date. Consumers' who live in Ikiro, Apomu and Ikoyi do not have different attitudes as regards the suitability of the day of the week immunization is administered. (X^2 = 8.023; df = 8; p > 0.05. See table 7:38

TABLE 7:3

THE DISTRIBUTION OF CONSUMERS OPINION WHO LIVE IN IKIRE, APOMU AND IKOYI ABOUT THE SUITABILITY OF THE DAY OF THE WEEK IMMUNIZATION IS ADMINISTERED

Place of residence	Strongly agree		Agree		Undecided		Disagree		Strongly disagree		Total
	No	%	No	%	No	%	No	%	No	%	No
Ikire	40	28.4	14	9.9	10	7.1	30	21.3	47	33.0	141
Apomu	11	19.3	9	15.8	2	3.5	15	26.3	20	35.1	57
Ikoyi	14	35.9	5	12.8	3	7.7	10	25.6	7	18.0	39
Total	65	27.4	28	11.9	15	6.3	55	23.2	74	31.3	237

x^2 = 8.023 df = 8 p > 0.05.

(NOT statistically significant)

The last part of this analysis presents data in percentages on mainly open ended questions which were designed to advance some reasoning behind the pattern of consumers' behaviour toward the expanded programme of immunization.

1) What in your opinion is the cause of the following diseases? Measles, Tuberculosis, Poliomyelitis, Diphtheria, and Tetanus.

In the response to this question respondents fell into 3 categories (See table 8:1)

(a) Those who believe that they are brought about by witchcraft and divine destiny. (41.3%)

(b) Those who believe that they are caused by micro-organism (26%)

(c) Respondents who are of the opinion that they are caused by smoking, hot temperature, bad weather.

TABLE 8:1

THE DISTRIBUTION OF RESPONDENTS OPINION OF THE CAUSES OF DISEASES COVERED BY THE EXPANDED PROGRAMME.

Causes	No of Persons	%
Witchcraft, divine destiny	124	41.3
Living Infectious organism	78	26.0
Smoking, hot temperature, bad weather	98	32.7
Total	300	100

(3) Who told you of the expanded programme of immunization?

Respondents fell into 4 main groups (See table 8:2).

(a) the health worker (21%)

(b) husband (3.3%)

(c) friends (23%)

(d) no one (52.7%)

TABLE 8:2

THE DISTRIBUTION OF RESPONDENTS ACCORDING TO THEIR FIRST SOURCE OF INFORMATION OF THE EXPANDED PROGRAMME

	Number of respondents	%
Health worker	63	21.0
Husband	10	3.3
Friends	69	23.0
None	158	52.7
Total	300	100

(3) What is the purpose of immunization ? In their response to this question consumers fell into 3 main groups:

(a) Some (9.3%) were of the opinion that immunization was for the prevention of disease

(b) A large number (68%) were of the opinion that immunization is for curing disease

(c) 22.7% of respondents simply implied that they do not know (See table 8:3).

TABLE 8:3

THE DISTRIBUTION OF RESPONDENTS' OPINION ON THE PURPOSE OF IMMUNIZATION

Purpose of Immunization	No of respondents	%
Prevention	28	9.3
Curing disease	204	68.0
Do not know	68	22.7
Total	300	100

TABLE 8:9

THE DISTRIBUTION OF RESPONDENTS ACCORDING TO THE TYPE OF PROTECTION OFFERED TO THEIR CHILDREN IN RELATION TO DIFFERENT RELIGIOUS BACKGROUND

Religious affiliation	Type of Protection				Healing in church/Prayers		Total	
	Hospital		Use of Amulets					
	No	%	No	%	No	%	No	%
Catholic	20	60.6	3	9.1	10	30.3	33	11.0
Protestant	22	41.1	9	17.6	20	39.2	51	17.0
Moslem	70	50.4	23	16.5	46	33.1	139	46.3
Syncrotic Church	4	10.5	-	-	34	89.5	38	12.7
Traditional African Religion	15	38.5	20	51.3	4	10.2	39	13.0
Total	131	43.7	55	18.3	114	38.0	300	100

89.5% of syncrotic church members offered prayers in their churches as their means of protection.

Also included in the questionnaire is the attitudinal question that "No time is wasted in the health centre on immunization day"

TABLE 8:5

THE DISTRIBUTION OF RESPONDENTS' OPINION ABOUT THE TIME SPENT TO OBTAIN IMMUNIZATION AGAINST THEIR PATTERN OF RESPONSE

Complete Immunization	Strongly agree		Agree		Un-decided		Dis-agree		Strongly disagree		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
Complete Immunization	5	4.95	2	1.98	10	9.90	60	59.41	24	23.76	101	33.7
Incomplete immunization	4	12.90	2	6.45	3	9.68	6	19.35	16	51.61	31	10.3
No Immunization	26	15.48	8	4.76	30	17.86	33	19.64	71	42.36	168	56.0
Total	36	11.67	12	4	43	25.60	99	33	111	37	300	100

$\chi^2 = 51.03$; df 8 $p < 0.05$

70% of respondents were of the view that time is wasted at the immunization centres. Respondents (83.17%) who had comple immunization were of the opinion that too much time is wasted at immunization centres. Also as much as 70.96% of respondents who had incomplete immunization were of the opinion that time is wasted in the health centre on immunization days.

CHAPTER V

DISCUSSIONS

It is evident from the findings of this study that behavioural problems exist among the consumers and these affect their utilization of theochild immunization services. A number of demographic, socio-cultural, socio psychological and structural variables could be said to be responsible for this trend. Prominents among them are variables such as consumers knowledge of the programme; educational status of parents; occupation of parents; location of the health centre; religion; and attitude of the health personnel; which are bound to affect the behaviour of the consumers.

There are three categories of respondents in this study: consumers with complete immunization for their children (34%) consumers with incomplete immunization (10%); and potential consumers who did not take their children for immunization (56%). Behavioural problems accounts for this trend. The findings in this study supports Green's model[61] that behavioural problems have three major antecedents which are: predisposing factor (knowledge, attitudes, values, perception and norms), enabling factors (availability of resources, accessibility, referrals), and reinforcing factors (attitude and behaviour of the health personnel).

Knowledge of the immunization programme is a predisposing factor in the utilization of the services. There is enough evidence from this study that knowledge of the immunization services is one of the factors responsible for the pattern of utilization among the three categories of respondents. There was correlation between knowledge of immunization and the utilization of immunization services among the respondents. 97.4% of consumers' who had complete immunization scored 50% or above, while only 10.7% of consumers' with no immunization had a good knowledge test score of 50% and above. A large number (70.6%) of consumers did not have adequate knowledge of the programme, like knowledge of the communicable diseases for which the immunizations offers protections. A good number of respondents (41.3%) believe in divine destiny and witchraft and that diseases like tetanus, measles, poliomyelitis, whooping cough and tuberculosis are transmitted to children by witches and evil spirit that try to punish the parents by incapacitating the child. Some respondents (32%) believe that these infectious diseases are caused by hot temperature bad weather, and smoking. Only 26% of respondents are of the opinion that the diseases are caused by micro-organisms.

Many respondents (68%) hold strongly to the belief that immunization is for curing disease and do not understand why a healthy child should be taken to the health centre while some (17%) are of the opinion that children get infections from immunization vaccines of poliomyelitis and measles. The latter is clearly an indication of inadequate knowledge of the after effects of getting immunized, a potential contributor to cases of incomplete child immunization. Viewed in the context of Rosenstock model [62] his colleague Becker [63], the two factors perceived susceptibility and perceived seriousness (or severity) of disease which is a forerunner to consumers' perceived threat of disease and consequent likelihood of taking recommended preventive health action is lacking without knowledge. A consumer needs adequate knowledge of a health service before knowing what benefits will be derived from it. That only 21% of respondents heard of the existence of the service from the health worker, exposes the inefficiency of the programme planners and the inappropriate education strategy employed to impact knowledg of immunization benefits to the communities. A good number of respondents (23%) heard of the existance of the service through friends.

Although distance was not a significant factor in the pattern of utilization of the service by the three communities, a large number of respondents (63.3%) were of the opinion that the health centre is not well located. The possibility exists that attendance could have been higher if there were more immunization centres serving the community. Similarly Standfield[64], observed "that most villagers are not prepared to come a long way for preventive medicine and that successful ~~community~~ immunization depends upon taking the services to the people". The availability and physical accessibility of the immunization centres is capable of precipitating consumption pattern (complete immunization 34%; incomplete immunization 10%; no immunization 56%. This supports Green model[65] that availability of resources and accessibility are factors that enable consumers to utilize service. Interview with the Chief health officer for Oyo State reveals that although the planners of the programme devised the strategy of using mobile immunization units to supplement the efforts of the static units, like the health centre/catholic hospital, the mobile unit soon went into total liquidation because of the human and financial constraints involved. A situation is thus created whereby the three communities depend only on the Health centre and the Catholic hospital both at Ikire.

Parents' level of education was a predisposing factor in consumers' response to the programme. The study reveals that the educational status of both parents are positively related to the utilization of immunization services, (complete immunization - no formal education 16%, Primary education 31.6%, Secondary education 55.7%, other Post secondary 59.1% University education 60% - for mothers). Also the defaulting rate ranks highest among those with low educational status. This is in consonance with the findings of Afekunle[66] that education most especially is a major factor in immunization because children belonging to illiterate mothers or mothers with only primary education are the group with least complete immunization. There are indications in this study that consumers with no formal and primary education have a negative attitude toward the potency or efficacy of the immunization vaccine mean score-no formal education 15.04, primary education 16.53 both below 18 which is average mean score). Kaufman[67] observed that perceived efficacy of professional intervention among two other factors (perceived susceptibility to and severity of disease) lead to predictable changes in health behaviour. This upholds Becker[68], that demographic variable of education has a modifying effect on

the likelihood of the consumer taking recommended preventive health action. The implication of this is that lack of belief in the efficacy or potency of the vaccine has an adverse effect on the pattern of utilization.

Occupation of parents is another predisposing factor in the pattern of utilization of child immunization services. Respondents who were farmers and petty trader- had a high defaulting rate after the first dose of immunization (80%, 15%) respectively). The same is true of respondents whose husband were farmers (29.6%) and businessmen (34.5%).

Parents who were farmers (29.12%), Business men/ Petty traders (44.0%), belong to the group who did not take their children for immunization. There is an indication that defaulters after first dose of immunization does not stem from their attitude toward the efficacy of the vaccines (χ^2 = 0.014 df = 4/295 p> 05). Many respondents particularly the farmers (66.7%) petty traders (62.7%) and civil servant (60.9%) queried the suitability of the day of the week immunization is administered. This upholds the findings of Rosenstock et al[69], that convenience is a factor affecting whether people seek vaccination or not.

there is a clear pattern of utilization of immunization services among respondents with different religious affiliation. Respondents who were Catholic and Moslems appear to utilize more of such services than Protestants, Syncretic and Traditional religious members. However, there are enough indications that poor response of the two latter groups stems from their negative attitude toward the efficacy or potency of the immunization vaccines (Syncretic Mean Score - 18.55; Traditional religion Mean Score - 18.61. A good number number of syncretic church members (89.5%) claimed that they offered prayers as a means of protection for their children. On the other hand some indigenious religious members (51%) claim that they had local immunization in the form of protective amulets from traditional healers (e.g. bangles and rings for their children). In this regard this study confirms the findings of Adeniyigun 70 that the consumer consciously and rationally decides which particular health service to consult: orthodox or traditional medicine. In the light of the above, religion is a predisposing factor.

The usual place of mothers' delivery is a determining factor in the pattern of consumers' response to immunization. The defaulting rate after first dose of immuniza is highest among

consumers who did not take their children for immunization (54%, and 52%) respectively.

A large number of consumers (70%) felt somehow unwanted at the immunization centre. Although 56% of respondents had never taken their children for immunization, it is possible that the attitude of the consumer feeling unwanted at immunization centres could be derived from the negative attitude of the health worker and the disappointment over failure of some consumer to get their children immunized on immunization days. An observation at the health centre on immunization days reveals the unsympathetic attitude of the health worker and the inability to get all children present immunized at the close of the day's work. It is pertinent to note that 80.6% of defaulting consumers after first immunization centre. A consumer must feel wanted before accepting immunization.

IMPLICATIONS FOR HEALTH EDUCATION

It is clear from the preceding discussion that the findings have some implications for health education. Health education is the sum of experiences which influences

attitude, habits and knowledge relating to the individual, family and community health. The ultimate aim is to produce a dynamic position, behaviour in the consumer [illegible] health. According to Green [11] behavioural changes are dependent on a variety of antecedent variables (predisposing, enabling and reinforcing) each of which has to be influenced by a distinct educational input for change to occur. The health educational components of preventive health programmes like the expanded programme of immunization may be considered to include:

(i) communications directed at the public to influence knowledge, attitude, habits and norms (predisposing factor)

(ii) community organization activities designed to influence the availability of resources to make health services more accessible and acceptable to the population (enabling factor)

(iii) [illegible] development activities such as immunization, supervision, inservice training and continuing education designed to influence the attitudes and behaviour of providers to serve patients and clients as well as reinforce appropriate health behaviour of the public (reinforcing factor).

A number of predisposing factor was elicited in this study which impede consumers' utilization of the services. Consumers' knowledge of the services rendered by the programme is very inadequate. Educational status of consumers particularly those in the low education status group with (no formal and primary education) was also a predisposing factor. Religion, particularly the syncretic and the indigenous religion was a predisposing factor. In this regard communication of information is a good educational input which must be directed at the community in general with particular reference to consumers in the low educational status group and members of both syncretic and indigenous churches. The purpose of such publicity is to get a simple message to the people on (a) what vaccines are to be given and what diseases the vaccines prevent, (b) who should be vaccinated, (c) the side effects of the different vaccines, (d) the appropriate benefits to be derived from vaccination of their children. This has an obvious behavioural outcome of increasing public awareness, interest, social support and some good knowledge of the programme in the consumer. The immediate benefit will be a positive attitude which will result in compliance, public support and a good utilization pattern from the consumers because of their belief in the efficacy of the vaccines.

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A lot of Health education methods exist for the effective communication of such messages. These include the involvement of appropriate community leaders like the three Obas in the three communities and other local influentials like religious leaders particularly the syncretic and indigenous groups, organised groups such as the father's club, women group, youths, school parents, traditional healers and traditional birth attendants. The use of posters and the mass media like the radio, newspapers, television is also advocated. Personal contact of the health worker with the consumer, though exhausting and time consuming is one of the most effective communication methods. Arrangement of demonstrations, immunization of children of local influentials and clinic discussion groups in the health centre will be appropriate in this type of situations.

There were other situational or enabling factors that affected the pattern of consumers' utilization of the services of the programme. These include the negative attitude of some consumers toward the location of the Health centre. As a short term measure to overcome this, one could concentrate on imparting more knowledge of immunization benefits and value.

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The eventual educational input to circumvent the constraint of inadequate immunization centre is community organisation by the 3 different communities, so that they could have their own separate centres. In the case of occassional vaccine shortage, the health worker should tell the plain truth to the consumer with polite apology. Although the reactivation of the mobile immunization team would be an appropriate measure for bringing immunization closer to the people, it should not be recommended, because of the huge cost of maintenance. In this way the value and perception of the consumer will be a guiding factor for moving to the health centre for immunization.

The attitude of the health worker was also a major determining factor in the pattern of utilization of immunization services. Many of the consumers felt unwanted at the immunization. This had a negative reinforcing influence on the consumer. The net effect of this is that because the consumer had an unsatisfied experience at the health centre, she will not be encouraged to come for further immunization. Consumers must feel wanted to accept immunization. An unsatisfied consumer has influence on his peers. A negative reinforcing influence is also created on consumers who claim that their children contacted infections from immunization vaccines.

A reversal of these factors will create support and positive reinforcing influence on the community. The educational input in this regard is a staff development programme in the form of inservice training, good supervision and consultation at all levels for all immunization workers. The consequence of this input is a positive behavioural outcome on the part of the staff, the indicators of which are increased staff awareness, sustained interest, positive attitude and showing more concern for the consumers. When conducting vaccination sessions the following are important public relations guidlines of which health workers must be constantly aware;

(a) To make sure that those attending are made welcome.

(b) To ensure free circulation of persons in the premises.

(c) To keep down noise and crowding without rancour.

(d) To ensure that actual immunization is carried out pleasantly.

(e) To make sure that the mothers have full understanding of the immunization given and the complications that may arise.

(f) To ensure that mothers feel a sense of satisfaction on leaving the institution.

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SUMMARY AND RECOMMENDATIONS

This study has indicated a poor community participation in the expanded programme of immunization. A number of demographic socio-cultural, socio-psychological and organisational variables were responsible for this trend. Prominent among them were variables such as poor consumers knowledge of the programme, educational status of parents, location of the health centre, the attitude of the health personnel and the over all attitude of the planners.

In the light of the findings in this study the following measures are recommended to improve community participation/ involvement in the expanded programme of immunization.

(a) Provision of more financial and human resource by the government to help establish more health centres in the community.

(b) A more effective communication method in order to ensure active participation/involvement of the consumers. This can only be achieved if the people know the appropriate benefits to be derived from the vaccination of children.

(c) Staff development programme in the form of in-service training, good supervision and consultation at all levels for immunization workers.

(d) Community organisation by the consumers to provide more health centres for themselves. In this way they will show more active participation/involvement in the programme.

(e) Involvement of traditional birth attendants and traditional healers in the expanded programme of immunization.

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APPENDIX I

STRICTLY CONFIDENTIAL

SURVEY OF HEALTH BEHAVIOUR

This survey is being undertaken among mothers to determine their health knowledge and attitude towards the expanded programme on Immunization. We will appreciate if you will answer the following questions as fully as possible:

1. Where do you stay: 1. Ikire
   2. Apomu
   3. Ikoyi

2. Marital Status : 1. Married
   2. Divorced
   3. Separated
   4. Single
   5. Widowed

3. Age: 1. 15 - 19
   2. 20 - 24
   3. 25 - 29
   4. 30 - 34
   5. 35 - 39
   6. 40 - 44
   7. Over 45 years

4. Religion:
   1. Roman Catholic
   2. Protestant
   3. Muslim
   4. Traditional African Religion
   5. Syncretic Churches e.g. Aladura, Celestial etc.
   6. Others (specify) .....

5. Level of Education: 1. No formal education
   2. Primary Six
   3. Secondary education
   4. Other Post-secondary education
   5. University education
   6. Others (specify) .....

6. Occupation:
   1. Farming
   2. Teaching
   3. Petty trading
   4. House-wife
   5. Civil servant
   6. Others (specify) .....

7. Husband's level of education. 1. No formal education
   2. Primary six
   3. Secondary education
   4. Other post-secondary education
   5. University education
   6. Others (specify) .....

8. Husband's occupation: 1. Farming

2. Teaching

3. Petty trading

4. Civil servant

5. Businessman

6. Others (specify).....

9. Where do you normally deliver your babies?

1. At home

2. Health Centre

3. In the Spiritual Church

4. In the Hospital

5. In the native healer's home

6. Others (specify) .....

10. What in your opinion is the cause of the following diseases?

1. Measles .....

2. Poliomylitis .....

3. Whooping cough .....

4. Diptheria .....

5. Tetanus .....

6. Tuberculosis .....

11. Have you done anything to prevent your child against illness?

1. Yes

2. No

12. If yes, what type of protection do you offer your child against illness .....

13. Do you know about the child immunization programme now taking place in the health centre

1. Yes
2. No.

14. Who told you about it:

1. The Doctor
2. The Nurse
3. Friends
4. Husbands
5. Others (specify) .....

15. What is immunization used for? .....

.....

16. Do you take your child to the health centre for immunization

1. Yes
2. No.

Give reasons .....

.....

17. If yes, what were the immunization for? .....

.....

.....

18. At what day of the week is immunization day in the Health centre

.....

19. How many of your children did you take for immunization before the age of one

.....

20. How many times did you take each child for immunization less than a year?

.....

1. Once
2. Twice
3. Thrice
4. More than thrice

21. Was your child given traditional immunization against ~~common~~ disease

1. Yes
2. No.

22. If yes, against which of the following disease:

1. Measles
2. Poliomyelitis
3. Whooping cough
4. Diptheria
5. Tetanus
6. Tuberculosis
7. Others (specify)

Give reasons .....

.....

23. What type of precaution did you take to prevent your child against the attack of measles?

1. Wearing native charms
2. Local innoculation
3. Medical immunization
4. Prayers in churches

TICK ( ) WHAT YOU FEEL ABOUT THE FOLLOWING STATEMENT

	Strongly agree	Agree	Un-decided	Dis-agree	Strongly disagree
24. Health centre is located at a place accessible to all					
25. Immunization day in the health centre is convenient					
26. No time is wasted in the health centre on immuniza-tion					
27. Somehow I feel unwanted at the immuniza-tion centre					
28. Traditional healers are competent at protecting children against infections diseases					
29. Children get infections from immuniza-tion vaccines like Polio measles					

	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
30. Child immunization is a health insurance against common infectious diseases					
31. Religious healers protect a child better than immunization at the health centre					
32. I prefer to immunize my child than to allow the child fall sick.					
33. It is cheaper to immunize a child against a disease than to cure the disease					
34. Hospital immunization don't protect my child					