

The Effect of Cultural Beliefs on Effective Utilization of Immunization on Childhood Killer Diseases in Kuje

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Abstract

This article evaluates the effect of cultural beliefs on the effective utilization of immunization on childhood killer diseases among parents living in some remote areas in Kuje Area Council in FCT. Relevant cultural factors hindering effective utilization of immunization were discovered; likewise, Universal immunization of children against six preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, polio, and measles) is crucial to diminish childhood mortality and morbidity across the world. Improving access to and utilization of routine immunization services are the best option for the prevention and control of vaccine-preventable diseases (VPD). The expanded program on immunization (EPI) was launched in 1994 as a global program for controlling and reducing death from vaccine-preventable diseases. A recent report from the world health organisation (WHO) revealed that the number of children under one year of age who did not receive the diphtheria-tetanus-pertussis vaccine (DTP3) worldwide was estimated to be 21.8 million in 2013 compared to 22.8 million in 2012. Three hundred and eighty-four (384) questionnaires were administered to parents using the house to house strategy in the Kuje community. Of those surveyed, (30.2%) had basic education, and the level of illiteracy could have contributed greatly to noncompliance. (80.2%) believed that only immunization can protect children against childhood killer diseases, while (19.8%) disagreed. (32.0%) believed that immunization could lead to HIV infection, (30.5%) of the respondents assumed that immunization causes a child to be sterile and (20.6%) agreed that immunization is forbidden by God, while (16.9%) believed that it causes some mental, spiritual, and physical deformity in children.

Keywords: *Childhood killer diseases, Expanded program on immunization (EPI), HIV Infection, Immunization, Kuje Community, Six preventable diseases (Tuberculosis, diphtheria, pertussis, tetanus, polio, and measles), Vaccine-preventable diseases (VPD).*

Introduction

Immunization refers to the method or the techniques of controlling and eliminating life-threatening infectious diseases and is estimated to avert between 2 and 3 million deaths each year across the globe and Nigeria inclusive. It is also one of the most cost-effective health investments, with proven strategies that make it accessible to even the most hard-to-reach and vulnerable populations. It has clearly defined target groups; it can be delivered effectively

through outreach activities, and vaccination does not require any major lifestyle change [1].

Purpose of the Study

1. To examine the roles of parents in the success of the effective utilization of immunization.
2. To promote awareness and the importance of Immunization.
3. To identify vaccine-preventable diseases and ways of prevention.

Problem to be Solved

1. It is established that vaccine-preventable diseases are the major causes of childhood mortality, having been recognized due to the high infant mortality rate in various parts of the world. Certain parts have recorded child mortality rates as 157 deaths per 1000 live births whereby vaccine-preventable diseases are of the major causes of such [2] Childhood killer diseases damage the body system which eventually lead to the deformity of some parts of the body or may, as a result, lead to death in most cases under one year old. It has been reported that infectious diseases are the world's leading cause of death, for instance, smallpox, which erupted in the past without warning, killing many people each year and leaving others disabled and blind today [3].
2. Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis*, which usually attacks the lungs but can also affect other parts of the body, including the bones, joints, and brain.
3. Diphtheria a bacterial infection caused by *Corynebacterium diphtheria*, transmitted from person to person through close physical and respiratory contact, can cause infection of the nasopharynx, which may lead to breathing difficulties and death.
4. Yellow fever caused by the Yellow Fever virus, is endemic in 33 countries in Africa and 11 countries in South America can be transmitted by mosquitoes that feed on infected animals in forests; infection is passed when the same mosquitoes feed on humans travelling through the forest. The greatest risk of an epidemic occurs when infected humans return to urban areas and are fed on by the domestic vector mosquito *Aedes aegypti*, which then transmits the virus to other humans.
5. Hepatitis B is caused by a virus that affects the liver. Adults who get hepatitis B usually recover. However, most infants infected at birth become chronic carriers i.e., they carry the virus for many years and can spread the infection to others. The virus is carried in the blood and other body fluids. It is usually spread by contact with blood.
6. Measles is a highly contagious vaccine-preventable disease caused by the Measles virus, a member of the genus *Morbillivirus* in the family *paramyxoviridae*. It is spread by droplets or direct contact with nasal or throat secretions of infected persons; less commonly by airborne spread or by articles freshly soiled with secretions of the nose and throat. Measles is one of the most readily transmitted communicable diseases and probably the best known and most deadly of all childhood rash/fever illnesses.
7. Meningococcal Meningitis is an infection of the brain and spinal cord caused by the bacterium *Neisseria meningitidis* (the meningococcus). The disease is divided into several types: Types A, B, C, Y and W135 cause most cases of meningococcal meningitis. More recently, types Y and W135 are gaining importance. Transmission of bacteria is from person to person through airborne droplets from the nose and throat of infected people.
8. Tetanus is acquired through exposure to the spores of the bacterium *Clostridium tetani* which are universally present in the soil. The disease is caused by the action of a potent neurotoxin produced during the growth of the bacteria in dead tissues, e.g., in dirty wounds or in the umbilicus following non-sterile delivery. People of all ages can get tetanus. But the disease is particularly common and serious in new-born babies. This is called neonatal tetanus. Most infants who get the disease die. Neonatal tetanus is particularly common in rural areas where most deliveries are at home without adequate sterile procedures.
9. Pertussis, or whooping cough, is a disease of the respiratory tract caused by bacteria that live in the mouth, nose, and throat. Many children who contact pertussis have

coughing spells that last for four to eight weeks. The disease is most dangerous in infants. Pertussis spreads very easily from child to child in droplets produced by coughing or sneezing.

10. Tetanus is acquired through exposure to the spores of the bacterium *Clostridium tetani* which are universally present in the soil. The disease is caused by the action of a potent neurotoxin produced during the growth of the bacteria in dead tissues, e.g., in dirty wounds or in the umbilicus following non-sterile delivery. Tetanus is not transmitted from person to person. A person usually becomes infected with tetanus when dirt enters a wound or is cut. Tetanus germs are likely to grow in deep puncture wounds caused by dirty nails, knives, tools, wood splinters, and animal bites.
11. Poliomyelitis, or polio, is a crippling disease caused by any one of these three related viruses, poliovirus types 1, 2 or 3. The only way to spread poliovirus is through the faecal/oral route. The virus enters the body through the mouth when people eat food or drink water that is contaminated with faeces. The virus then multiplies in the intestine, enters the bloodstream, and may invade certain types of nerve cells, which it can damage or destroy. Polioviruses spread very easily in areas with poor hygiene.

Existing solutions

Immunization stimulates the body's immune system which then produces substances (antibodies) which attack or fight any foreign substances introduced to the body. It prepares the immune system to wade off diseases by weakening or killing them [4]. The good news is that there are available vaccines for these diseases which are readily available and administered free to all eligible children at virtually no cost to their parents. This has contributed to the highly avoidable mortality rate being recorded [4].

1. Immunization of infants with Bacilli Calmette-Guerin vaccine (BCG) can protect against TB meningitis and other severe forms of TB in children less than five years old. BCG vaccine is administered at birth is not recommended after 12 months of age because the protection provided is variable and less certain.
2. Diphtheria on the other hand, can be treated when administered with toxoids as DPT, DT or Td - at least three primary doses given by the intramuscular route. Recombinant DNA or plasma-derived hepatitis B vaccine - three doses are given by the intramuscular route into the upper thigh of infant and deltoid muscle of adult. Live attenuated viral measles vaccine - one dose given by the intramuscular or subcutaneous route, with the opportunity for a second dose at least one month after the first dose. Purified bacterial capsular polysaccharide (AC, AC/W135, Y) - one dose or purified bacterial capsular polysaccharide conjugated to a protein (only serogroup C available) [5].
3. Toxoid as DPT, DT, TT or Td - at least three primary doses given by the intramuscular route. Inactivated whole cell or acellular - at least 3 primary doses, given by the intramuscular route, combined with diphtheria and tetanus toxoid.
4. Live oral polio vaccine (OPV) - four doses in endemic countries or Inactivated polio vaccine (IPV) given by injection - two-three doses. Toxoid as DTP, DT, TT or Td - at least three primary doses given by the intramuscular route. Live viral yellow fever vaccine - one dose of 0.5 ml subcutaneously [4].

Effective Utilization of Immunization

For a child to utilize immunization effectively, he/she has to visit the health centre minimum of six (6) times from birth till the child reaches the age one. Subsequent vaccination continues up to age 59 months (5years), any child that takes immunization for lesser times is

said to be under immunized and the child can be prone to childhood killer diseases because his/her immune system has not being built to the required standard to fight any infection or diseases that child may likely be exposed to in life [6].

Limitations

Early childhood killer diseases are one of the greatest challenges in this part of our world, of which one of the major causes are vaccine-preventable diseases. This in decades, has led to infant mortality and deformity. A child not immunized against any of the childhood killer disease is very likely to face either of these before the age of five or later in life which may result to terminal diseases, which is a great concern to the world. Efforts have been put in place to ensure the reduction to its barest minimum by ensuring that all children from birth to age one (0-12months) have at least utilized effective immunization, which will protect them from the early childhood killer diseases in our Society.

The research is confirmed on parents' cultural beliefs on effective utilization of immunization on childhood killer diseases in some selected households and persons in Kuje Area Council in FCT. The write up is based on facts, data, and materials gathered from questionnaires. The limitations were also seen as finance, illiteracy of some households, time, and lack of existing literature. However, the poor attitude of respondents was one of the contributing factors.

Achievements

Having known that vaccine preventable diseases can prevent childhood killer diseases, efforts were thereby gingered towards ensuring that every child from 0-59 months (under five) are immunized against all these diseases by vaccinating them with some specific volume of antigens as they develop along the line before reaching the age five. Most of these vaccines protect the children for life against the diseases and some need to be administered again in life as

boosters to keep them protected throughout their lifetime [7].

Many decades ago, infectious diseases were the world's leading cause of death, for instance, smallpox would erupt without warning, killing many people each year and leaving others disabled and blind. Today, immunization is a global health success story that has contributed immensely to the eradication of smallpox which was declared on May 8, 1980. It has saved millions of lives and enabled others to live longer, healthy lives [4].

The closing years of the 19th century and early years of the 20th century were marked by the achievement of great vaccine scientists such as Pasteur. Since the introduction of the vaccine by Jenner 200 years ago, nine major diseases of man have been controlled to a greater or lesser extent through the use of vaccines. However, attempt to use the vaccine dated as far back as 600 BC in China, when Smallpox materials were introduced into the nostrils [1].

The International World leaders came together at the United Nations in September 2000 to create a blueprint for global development with a target date of 2015, producing eight Millennium Development Goals (MDGs). These goals range from halving extreme poverty to providing universal education. According to UNICEF, in order to reach the 2015 goal, the number of child deaths must be cut in half - to less than 13,000 child deaths per day and fewer than five million per year. Additionally, the majority of the efforts will have to be focused upon the poorest, most isolated and marginalized communities in order to make an impact. UNICEF underscored the fact that "business as usual will be grossly insufficient to meet the health-related Millennium Development Goals for Children. The World Health Organization (WHO) recommends that the first polio vaccine be given at birth, along with the vaccine for childhood tuberculosis; Bacillus Calmette Guerin (BCG). In countries where transmission of hepatitis B from mother to child is common, these infants

should be immunized against the disease at birth [8].

The remaining doses of polio vaccine and the combination diphtheria, pertussis, and Tetanus Vaccine (DPT) should be given three times before the age of one: at six weeks, 10 weeks, and 14 weeks. Due to inherited immunity, measles vaccines are typically given at nine months. Yellow fever is also given at this time for children in high-risk regions [9].

During the 1720s, Diphtheria and Tetanus Toxoids, whole-cell Pertussis Vaccines and BCG were introduced, and a yellow fever vaccine was available by the year 1935. This has been in place for the prevention of yellow fever in children. Once a child is immunized with the vaccine, the child is said to be prevented for a live period. The booster can be repeated later in life to further fortify the existing one in the system [10].

Methods

Method Of Data Analysis

Statistical Package for the Social Sciences (SPSS) was employed for data analysis. This is because the package has the benefits of reproducibility, simplifying repetitive tasks, and handling complex data manipulations and analyses. In SPSS, descriptive statistical tools such as simple percentages and frequency distribution and other relevant tools were used for the analysis and presentation. In addition, a non-parametric tool, the chi-square method, was also employed for the testing of hypotheses statements.

Research Design

A cross-sectional survey study was conducted. The choice of this design was informed by the fact that it gave the researcher the opportunity to further investigate into the incidence of cultural beliefs, which may, in turn, affect the effective utilization of immunization in Nigeria with Kuje as a case study as well as contributing factors, the effects that this trend is likely to have on the nation's healthcare delivery

and responses of mothers and caregivers. Quantitative data were collected through Questionnaires, Individual interviews and focus group interviews were conducted to obtain qualitative data.

Study Population

The research setting of this study is the Kuje Area council in FCT. Kuje is one of the area councils in FCT; it is approximately Twenty-Eight kilometres away from Abuja, the Federal Capital City. It is viewed as one of the high-risk areas of Poliomyelitis, where several cases have been discovered over the years. The area council has a total number of ten (10) political wards with a total population of 9,438 persons, this population was obtained from the National population commission, and the sample size was drawn from this population.

Sampling Method and Size

The stratified random sampling was used to get the respondents to generate the data needed for the study. This choice was made because of its propensity to represent not only the overall population but also key subgroups of the study population. It was ensured that children within the study population had an equal probability of being included in the survey. From the total population of within 18-50 years of age within the area council (Kuje), which amounts to 4,719 persons, 10% of the population as the sample size for the study which amounted to 472. (4,719 x 10/100) representatives. The sample size for the vital population for the wards was 472 of parents of under year children.

Research Tools

In-depth interviews, as well as questionnaires were used to collect both quantitative and qualitative data for the study. Before the fieldwork was embarked upon, the questionnaire for the study was designed to ensure that it can provide an answer to all the research questions and the hypothesis in the study. The questionnaire was then reviewed by experts for clarity before use.

Method of Data Collection

Two basic sources of data collection were used to get the data needed. These are the primary data and the secondary data.

The Primary Data

The primary data for this study was gathered through the use of both questionnaire and face to face interviews with respondents from the sample size. The prepared questionnaire was administered after the explanation of the aim of the study has been given to each respondent with the assurance that the research was confidential, and that any information disclosed could not be used against them in any way. The Questionnaire contains a list of questions that sought to get the opinions of the respondents on the effect of Cultural beliefs in the effective utilization of immunization in childhood killer diseases from the population studied. Qualitative data was collected through in-depth interviews, with audiotape recording with permission. Most of the individual interviews were conducted at the participant's homes and settlements around the sample area.

For the quantitative data, the researcher used House to house strategy to obtain information from a selected sample of 472 parents of childbearing age group and caregivers through the questionnaire administration. Four hundred and seventy-Two (472) copies of Questionnaires were distributed, and three hundred and eighty-four (384) Questionnaires were retrieved.

The Secondary Data

The other source from which the data used by the researcher was obtained was through the review of related literature from books authored

by various writers, journals, magazines, newspapers, and Web Pages. These were obtained through different libraries and the Internet.

Reliability And Validity of Research Instrument

In this study, the method of triangulation was used to validate the reliability of the data obtained; this was tested using multiple techniques such as observation, interviews, and Questionnaires to compare the responses of the respondents. Also, a pilot study was conducted to pre-test the study schedule, which was subsequently validated in the process.

Results

This result focused on the Effect of Cultural Beliefs on the Effective Utilization of Immunization on Childhood killer Diseases, using Kuje as a case study. A total number of 472 Respondents were interviewed using a structured questionnaire considering the target group who have little or no basic education through direct interviews and some of the questionnaires were distributed to the respondents to fill. Data collection lasted for 4 weeks; random sampling was done in order to obtain information about their opinions on immunization.

In summary, 472 questionnaires were administered, 384 were retrieved, and analysis was based on these 384 respondents using the SPSS software package. Analysis was done and represented in tables and charts for clarifications, and the statement of hypotheses were tested using chi-square.

Analysis and Findings

Socio-Demographic Characteristic of the Sample

Table 1. The Demographic Characteristics of the Respondents

Age	Percentage	Valid Percentage	Cumulative Percentage
Valid 18-20	4.7	4.7	4.7
21-25	13.3	13.3	18.0
26-30	27.1	27.1	45.1
31-35	29.9	29.9	75.0
36-40	15.6	15.6	90.0
41 and above	9.4	9.4	100
Total	100	100	-

From Table 1, distributions of the socio-demographic characteristic of the various components shows that (4.7%) are of 18-20 years of age, (13.3%) were between 21-25 years, (27.1%) were 26-30 years. Also (29.9%)

represents 31-33 years of the respondents, which is the highest of the respondents, (15.6%) is 36-40 years, and finally, the last group of the respondents was of age 41 and above (9.4%) which is the least of the respondent's age group.

Table 2. No of Children Completely Immunized?

		Percentage	Valid Percentage	Cumulative Percentage
Valid	None	21.4	21.4	21.4
	All	14.6	14.6	35.9
	3	21.4	21.4	57.3
	4	35.7	35.7	93.0
	5	7.0	7.0	100
	Total	100	100	

In Table 2, it was observed that (21.4%) of none of the respondents' children completed their immunization, only (14.6%) said they completed their children's immunization. Some

respondents (21.4%) took 3 of their children for immunization, (35.7%) took 4, while (7.0%) took 5 of their children for immunization.

Table 3. Does your Child (ren) have a Certificate Received at the Completion of Immunization?

Does your child (ren) have a certificate received at the completion of immunization?		Percentage	Valid Percentage	Cumulative Percentage
Valid	Yes	6.2	6.2	6.2
	No	93.8	93.8	100
	Total	100	100	

Normally a child that has effectively utilized immunization receives a certificate from the health facility that was concluded.

From this study, it was observed that not all that are aware of immunization and begin some complete it before the child reaches an age (one)1. Some dropped out along the line, which

may invariably mean that people at the grass-root hardly utilize immunization services. Findings from this study show that 93.8% do not have a certificate of completion for their children's immunization, while others had.

Discussion

This research has been able to achieve its set objectives, the first of which was to identify the roles of parents in the success of the effective utilization of immunization. Most importantly, this study will enhance Government organizations dealing with Health, Agencies, NGOs, and other related Parastatals to be informed on how cultural beliefs in some part of the country still serve as one of the factors that hinder Effective Utilization of Immunization in the reduction of Child Mortality. This will in turn promote awareness and the importance of Immunization from the analysis, it was observed that there is a great awareness of immunization among parents (92.4%), only (7.6%) said they have not heard of immunization before. It was also observed that (85.7%) of the respondents take their children for immunization while (14.3%) do not. Also, in the findings (69%) take their children for immunization in the health facility while 16.4% still said they immunize their children in the house when the house-to-house teams for Immunization Plus Days (IPDs) come around for campaigns. In the analysis, it was discovered that only (6.7%) of the parents who responded stated that their children have a certificate of completeness of immunization.

In the findings, it was generally observed that not all the people were aware of immunization effectively utilizes it for their children, some take their children for immunization in the facilities and do not go back to complete all the antigens that is required for children to be fully immunized.

Based on the reactions to this question, the study sought respondent's beliefs on unimmunized children if they are protected against childhood killer diseases or not.

(67.2%) the belief that unimmunized child is not protected and can be infected by childhood killer diseases, (19.0%) belief otherwise, and 13% do not know if they are protected or not, likewise (7.3%) do not agree unimmunized child cannot die or be incapacitated.

Finally, (59.1%) indicated a lack of the knowledge of the importance of immunization as a barrier to effective utilization of immunization. They then believed that the creation of awareness to every nook and crannies of this country, most especially the northern and the middle belt states of Nigeria, would be of great impact to effective utilization of immunization thus protecting numerous Children from childhood killer diseases.

Conclusion

Vaccine-Preventable Disease is one of the diseases that can be prevented in Nigeria if an only parents can oblige to play their roles in ensuring that the children be immunized effectively as at when due, this will go a long way in preventing and completely eradicating the childhood killer disease in children in Nigeria as a whole.

This research was carried out to enlighten environmentalists, public health officers and other scientists on how to go about cancelling parent that comes their way. This message should be passed to parents at the grass root to be aware of and effectiveness of immunization, mostly parent in the north and at the middle belt.

Based on the Finding of this Research, the Following are Recommendations Made

It is recommended that parents should be enlightened towards Effective Utilization of immunization of their children irrespective of their status, educational level, religion, their daily of monthly income. It is the primary responsibility of every parent to ensure that their children/wards are fully immunized for them to be protected against childhood killer diseases.

This research proved to some extent that some parent still belief that their children are not

protected with the vaccine, they believe that diseases comes from God and sin, and some percentage of the parents belief that immunization leads to HIV infection of their children, some indicated that it causes sterility in future for their children, and it is forbidden by God, finally some indicated that it causes mental, spiritual and physical deformity. Government should ensure that parent is educated and sensitized on the importance immunization service in this area and how it can reduce the number of incapacitated people in Nigeria due to Vaccine Preventable Diseases.

Government should ensure that more Health Facilities are created in rural areas that offer Immunization services to encourage parent to take their children for Immunization.

Finally, it is recommended that Government should put a policy in place which will ensure every parent to be forced to take their children for Immunization services irrespective of their Religion, Ethnic group, Culture and Educational status, and the services should be cost-effective.

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Conflict of Interest

None declared.

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