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Beliefs, Knowledge and Perception of Parents to Peadeatric Vaccination in Lagos State, Nigeria

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Abstract

This study examined the belief, knowledge and perception on parents to immunization of children in Lagos State**.** Questionnaires were distributed to a sample of 1000 parents seeking for their opinion on various issues pertaining to their perception about child immunization. In addition, the study did a general literature review on immunization coverage in Nigeria taking into cognizance the beliefs of the Yoruba of South-West Nigeria to which the study area (Lagos State) is an integral part.

The result shows that although, many parents have knowledge about the efficacy of vaccination for their children, yet culture overrides such knowledge in some cases. The result shows that gender of parents does not significantly affect their belief about immunization and their willingness to present children for routine immunization. However, marital status, education and religion significantly influence such belief.

It is concluded that the culture and beliefs of the Yoruba in Lagos State is too complex to be ignored in any public health plan, if such plan is to be effectively and efficiently implemented.

Keywords: immunization, child, parent, perception, knowledge

1. Background

Asakitikpi (2008) quoting UNICEF (2002), WHO (2004) and FOS (2005), explained that the quest to minimize infant and child mortality in the country is one of the greatest challenges facing the Federal Government of Nigeria. According to him, the estimated mortality rate of children below five years of age is between 97 and 120 per thousand births. According to WHO (2001) in Adeyinka, Oladimeji, Adeyinka &Aimakhu (2009)observed that immunization is one of the most effective, safest and efficient public health interventions and it is estimated to save at least 3 million lives from vaccine preventable diseases. According to the report, globally, 2.5 million children die every year from easily preventable infectious diseases with the year 2000 alone resulting in 0.777 million deaths and 2million disabilities from measles. In another study, Adeiga et al. (2006) explained that immunization is cost effective in reducing vaccine preventable diseases and to achieve this, there should be high immunization coverage which will in turn promote child health, reduced childhood diseases and death. TAdeiga et al (2006) observed that many factors such as poor knowledge of immunization, lack of suitable venues, long waiting, transportation difficulties, non-medical facilities and poor motivation impede smooth realization of the objectives of immunization programmes.

A report prepared for WHO by IMMUNIZATIONbasics Project (2009) and presented at WHO's Strategic Advisory Group of Experts (SAGE), examined the reasons for dropouts (children who began but did not complete their basic series) and left outs (children with no immunization) listed the factors responsible with non-immunization of children under the following sub-heads:

1) **Factors attributable to immunization system** such as: Distance (travel conditions/access), Health staff motivation, Lack of resources and other logistics, False contraindications (e.g., sick children, baby too old, Use of all opportunities (e.g., refusal to vaccinate eligible child), Reliability (e.g., lack of supplies), Appropriateness of Time (e.g., immunization starting late and ending early), Waiting Time, Illegal charges or indirect costs and so on.

2) **Factors due to Communication and Information** such as: Lack of promotion/follow up of routine immunization/health communication

3) **Family Characteristics** such as Income/Socio economic status, Recent/seasonal migrants and Education (maternal and paternal)

4) **Parental attitudes/Knowledge** such as Parental Practical Knowledge, Fear of side effects, Conflicting priorities, Religious/cultural/social beliefs/norms and rumours, Perception about importance of vaccination to the health of the child, Perceived efficacy of vaccine, Lack of interest/motivation, Lost/unavailable health card, Demand/acceptability of vaccines, Autonomy of women/father/mother-in-law pressurising against/husbands refusal and so on.

The position of Arulogun and Obute (2007) on immunisation does not differ markedly from those on the aforementioned list. According to them immunization coverage in Nigeria is found to be generally low and this limited coverage may be attributable to factors such as lack of proper planning, decreasing motivation of health workers, poor quality of immunization services and low demand for services from the community. Examining the success of polio vaccine in particular, they agreed that parents are very important in the determination or success of immunization and that their level of awareness and perception about the susceptibility of their children to this vaccine, severity of the disease and their belief would normally influence their willingness to release their children for immunization. Explaining the community and systemic factors affecting the up-take of immunization in Nigeria. Babalola and Aina (2004), submitted that immunization programmes had been characterised by intermittent success and failure since its inception in Nigeria in 1956.The report noted that in 1976, the Expanded Programme on Immunization (EPI) was introduced with the aim of providing immunization to children between the ages of 0 and 23 months but it experienced initial success and later failed and had to be re-launched in 1984. As a result, Nigeria was able to attaining 81.5 percent of Universal Childhood Immunization for all antigens in 1990 but by 1996, the coverage declined to less than 30 percent for DPT3 and 21 percent for the three doses of oral polio vaccine (OPV). The report concluded that by 2004, coverage rates for the various vaccines in Nigeria are among the lowest in the world. Since children cannot attend hospital or present themselves in clinic, it is assumed that the responsibility of taking regular dose of the vaccines rest solely on the shoulder of parents, particularly mothers, whose beliefs, perception and knowledge about these vaccines may be the final determinant of the success of the immunization programme.

A report by Babalola & Adewuyi (2005), observed that despite that most of the indicators of immunisation practices are found to be higher in Lagos than any other state, yet, the state itself has about 24 percent coverage while majority of the children aged 12 -23 months are yet to be fully immunised. Explaining the reasons for lack of success of immunisation in Nigeria, the report explained that while coverage was found to be low for those vaccines that require repeated visits, other variables that play significant role include: Mother's education, Religion, Knowledge about immunisation, Perceived self-efficacy to immunise one's children, Easy access to public health facilities and exposure to immunisation information.

According to Borras et al (2009)

"...routine vaccination is a major tool in the primary prevention of some infectious diseases, there is some reluctance in a proportion of the population. Negative parental perceptions of vaccination are an important barrier to paediatric vaccination..."

As indicated in the above quote, negative parental perceptions of vaccinations are an important barrier to the success of paediatric vaccination in many parts of the world (Borras et al., 2009).

The present study is embarked upon to address this issue, particularly with respect to mothers in Lagos State. The paper is divided into six sections. Apart from the background of the study, Section 2 summarizes the report on the epidemiology of the unimmunized child while Section 3 discussed the study area, section 4 explains the methodology used in the study while Section 5 shows the statistical analysis. The last section, that is, Section 6 discussed the result and makes recommendations.

2. Immunisation Coverage in Nigeria

Tracing the history of EPI in Nigeria, Sorungbe (1989) explained that the programme started in 1976 with pilot studies organised and implemented with the assistance of WHO and the United Nations Children's Fund (UNICEF) and almost 75 percent of program delivery was carried out through mobile operations while the remaining 25 percent was done through existing static health facilities. According to the study, the outcome was abysmally low (10 percent coverage) when it was appraised four years later. In a release by Nigeria Demographic and Health Survey (2010), it was opined that:

"Currently, 23 percent of children under five in Nigeria are fully immunised, an almost two-fold increase since 2003 when only 13 percent of the children were fully immunised… 29 percent of Nigerian children have never received immunisation, a slight increase from 2003..."

It should be noted that the Nigerian National Programme on Immunization (NPI) schedule is BCG, OPV; HBI (first dose) at birth; DPT1, OPV1, HB2 (second dose) at 6 weeks; DPT2, OPV2 at 10 weeks; DPT3, OPV3, HB3 (third dose) at 14 weeks; measles and yellow fever at 9 months (Odusanya, Alufohai, Meurice & Ahonkhai, 2008).

Reaffirming the aforementioned statistics, Adeyinka et al (2009) observed that Immunisation coverage in Nigeria is poor (about 13 percent) despite the efforts by the government to strengthen the health system, especially, the routine immunization meant to reduce the burden from vaccine preventable diseases. According to them, the perception, beliefs and practices towards vaccination in Northern Nigeria showed that 1 out of 500 mothers interviewed believed that measles is prevented by immunisation, 16 percent belief that it is contagious, 26 percent believed that it is caused by evil spirit, witch craft and heat, 25 percent has never heard about measles immunisation, 27 percent do not believe immunization would be effective and 4 percent were not allowed to go for immunization by their husbands.

Statistics from FBA Health Systems Analysis (2005) shows that in Nigeria, one child in five dies before reaching the fifth birthday while vaccine preventable diseases (VPD) account for about 22 percent of deaths with over 200,000 children a year dying needlessly of VPDs. The report further emphasised that Nigeria's immunisation programme is by far the most expensive among developing countries around the world. A quote from the report says

"National Programme on Immunization's (NPI) 2005 budget according to the 2004 to 2008, five-year National Strategic Plan Works out at over $28 per child under 1. However, if the budget is set against the internationally accepted denominator of children fully immunised before their first birthday, it amounts to $226 per fully immunised childHowever, even if the lowest available figure for 2005 is used, this still comes to $56 dollars per fully immunised child , more than double the norm for developing countries..."

Despite these enormous efforts and other resources that have been invested in immunization programme in Nigeria, immunization uptake remains low in the country, with the Northern part of the country showing abysmally low performance with thousands of children dying or being maimed for life as a result that are preventable through immunisation (Babalola, 2005). According to Babalola (2005), DHS results for 2003 show a DPT3 coverage rate of 23 percent among children aged 12- 23 months while the country remains one of the few reservoirs of polio around the world.

3. The Study Area

Lagos State was created on May 27, 1967, through Decree Number 14, by the Federal Government. What was then the Federal Capital of Nigeria was merged with the old colony province of the defunct Western Region of Nigeria to form the new state. The state lies approximately between longitude $2^0$42' East and $3^0$42' East and latitude $6^0$22' North and $6^0$52' North. It is bounded in the South by the Guinea Coast of the 180km Atlantic Coastline, in the West by the Republic of Benin and in the North and East by Ogun State (Odumosu, Balogun and Ojo, 1999). The State has twenty local government areas, namely; Agege, Alimosho, Ibeju-Lekki, Surulere, Ojo, Lagos Island, Awori-Ajeromi, Ajeromi-Ifelodun, Shomolu, Epe, Ikorodu, Apapa, Eti-Osa, Badagry, Lagos Mainland, Ikeja, Mushin, Kosofe, Amuwo-Odofin and Ifako-Ijaye.

It has a total area of 3,577 square kilometer about 22 percent of which is water. (Oke *et al*., 2000). Despite its position as the smallest State in the Federation in terms of land mass, occupying only 0.4 percent of the area of Nigeria, it has gone through series of administrative transformation to metamorphose into a frontline position amongst the thirty-six states making up the federation of modern day Nigeria. The State has twenty Local Government Area.

Lagos State with a population of 9,013,534 million, distributed as 4,678,020 males and 4,335,514 females), is the most urbanized state in Nigeria. In 1963, the population of Lagos State was 1,444,000 with 603,000 males and 591,000 females. This grew to 5,725,116 in 1991 with a male population of 3,010,604 and 2,714,512 females. The population density of Lagos State is 2,455. (National Population Commission and National Bureau of Statistics, 2006).

Over 50 percent of industries in Nigeria are located in the state, contributing about 70% of the national gross industrial output. (Oke, Adedokun, Ogunlade, Soretire, Adetoro and Faweya, 2001). The state accommodates about 6.2 percent of the total population of Nigeria and its annual population growth rate is over 9 percent.

4. Childhood Diseases: The Yoruba Traditional Perspective

The study area is Lagos State, Nigeria which is one of the six states in South-West Nigeria and predominantly inhabited by the Yoruba. Ogunjuyigbe (2004) explained that despite the fact that major childhood diseases have been identified by modern technology, yet, children from African countries die in large number from attack of these diseases because of the deep rooted beliefs and attitudes of the people concerning childcare and behavioural practices in health strategies. The Yoruba perceptions about the aetiology of most childhood diseases are a great hindrance to public health programmes and intervention by the government of Nigeria. Adegoke (2008) while explaining the factors influencing health beliefs among the people of South-West Nigeria conceded that African conception of illness and disease causation are often linked with the belief that misfortune of which ill health is a form does not happen by chance. Quoting Odebiyi (1980), he explained that in Yoruba society, people attribute diseases and illnesses to supernatural causes. Odebiyi & Ekong (1982) in Ogunjuyigbe (2004) corroborated this point when he observed that in traditional Yoruba setting, measles attack is usually attributed to a variety of causes which have no link with the concept of virus, According to him, measles attack is considered to be punishment for breaking family taboo or evil deed from witches or enemies or the consequence of rivalry between co-wives in a polygamous setting.

To the Yoruba, measles is the by-product of the anger of Igbona or Sopona or Olode, the god of small-pox (Odebiyi & Ekong, 1982). This god is known to be intolerant of any form of vaccination or injection and it is generally believed among the Yoruba of South-West Nigeria that a child having measles should neither visit the hospital nor take injection.

Tuberculosis on the other hand is seen by the Yoruba to be an affliction resulting from food ate in a dream or poisoning from enemies who have access to the victims' saliva. In this respect children and adults alike are usually warned not to spit on the sand or leave their chewing stick or toothbrushes in places where enemies could have access to them.

Asakitikpi (2004) observed that diarrhoea is seen among the Yoruba as a type of illness that is generally regarded as a milestone in the development of the child below five years. According to him, most mothers believe that diarrhoea signifies the onset of growing of teeth by babies while some see the disease as being caused by consumption of sweet

5. Methodology

The population of this study consists of all mothers in Lagos State, Nigeria. The quota sampling techniques was considered appropriate here to give the study the desired spread across the local government areas (LGAs) and also because a sampling frame is not readily available. However, the state was divided into the 20 constitutionally recognised Local Government Areas (LGAs) and parents (fathers and mothers) were selected and interviewed on the spot (that is, wherever they were found to be present).

A sample of 1000 respondents spread across the 20 LGAs was interviewed. The instrument which consists of 35 questions .was tested for pilot tested before being sent to the field. Variables examined include demographic details such as Gender; Age; Marital Status; Religion; Educational qualifications; Occupation and so on. Other details such as: Whether their children were immunised or not; How many of their children were immunised?; Whether they found immunisation beneficial; Type of immunisation; Opinion about Immunisation and so on were also considered in the study.

Apart from descriptive analysis which includes frequency distribution and percentages, hypotheses were also tested at 5 % level of significance to ascertain the dependence of the various attributes (variables) in our study using the χ^2 statistics. This statistical tool was found to be appropriate in this case because the variables in the study are categorical.

6. Results

6.1 Data Description

About 70 percent of the respondents are females. The study did not preclude the male parents because of their overbearing influence on decisions about the children and this may include decision on whether to immunise such child or not. Slightly over 72 percent of the respondents are married while 8 percent are separated from their spouses and 4.1 percent are divorced. In terms of educational attainment, more than 50 percent of the respondents are graduates from Polytechnics and Universities while 29.2 percent possess Secondary School Certificates and below.

About 65.5 percent of the respondents are Christians, 31.8 percent are Muslims and the remaining respondents belong to other religions. About 30 percent of the respondents are under 30 years of age, 63.1 percent are 31 years but not more than 50 years while the remaining respondents are over 50 years. Those who have between 1 and 5 children are 82.2 percent and 11.6 percent have 6 to 10 children while others have more than 10. It is not out of place in Nigeria to find a woman bearing up to 12 children. About 82 percent of the respondents have one time or the other taken their children for immunisation while the remaining has never done so.

It is worthy of note that 88.4 percent of the respondents considered immunisation to be beneficial to the general well-being of the children. About 52 percent of the parents nurse the fear that the vaccines could be contaminated while the others do not think so. Almost 43.4 percent of the respondents think that vaccines could weaken the immune system of a child. Only 45.3 percent of the parents agree that health workers are competent while 18.2 percent are undecided. About 36.1 percent think that the health workers are quite competent. About 27 percent of the parents feel that immunisation could have side effects while 19.8 percent do not know. Despite this, 77.2 percent agree that immunisation is for every child and about 67.8 percent do not agree that children should be taken for immunisation when they are sick.

About 20.4 percent do not think that immunisation could immune a child against any disease while 16.8 percent are of the opinion that immunisation could result in the disability of the child. About 40 percent of the parents would consider other forms of treatment rather than take the child to the hospital.

Table 1. The responses of parents to what they think causes various childhood diseases

Response of parents	**Polio (in %)**	**Measles (in %)**	**Small Pox (in %)**	**Tuberculosis (in %)**	**Whooping cough (in %)**	**Yellow Fever (in %)**
Affliction from a god for offence committed by parents	6.1	8.9	15.3	7.3	2.0	7.2
Affliction by a god for offence committed by the child	10.0	9.7	9.8	6.1	2.1	2.9
The child is Abiku	8.1	2.1	6.4	5.4	1.9	7.7
It is hereditary	18.5	9.4	4.5	11.1	13.1	12.3
It is due to breaking of taboo	1.4	3.8	7.3	2.2	7.1	2.0
It is due to attack from witches	8.5	5.2	7.0	10.5	6.9	10.3
Eating food prohibited by family tradition (Eewo Idile)**	0.8	5.7	3.9	4.6	4.2	4.2
It is a disease like any other disease	26.2	31.0	24.7	23.3	31.5	30.9
It is caused by overcrowding and poor sanitary condition	9.8	12.3	13.6	16.1	18.8	11.7
Others	10.7	11.7	7.5	13.5	12.4	10.8
Total	100	100	100	100	100	100

Note: ** Every Yoruba family has Eewo Idile (food that are prohibited for family consumption) and it is believed that any individual who eats this food automatically suffer the consequence in many ways. One of such consequence is the appearance of rashes on the screen. This is similar to allergic reactions in medical parlance. Also, people or children who have vitiligo are placed in this category by the Yoruba traditional belief.

Table 2. Reasons given by those who would not take their children for immunization

Response of parents	Polio (in %)	Measles (in %)	Small Pox (in %)	Tuberculosis (in %)	Whooping cough (in %)	Yellow Fever (in %)
Immunization would make the god (Sopona) angry and the child would die	12.6	5.0	8.1	5.1	2.8	6.7
Agbo (Herbal concussion) is better	9.3	32.7	21.0	21.0	21.1	21.6
Continuous prayer in church, mosque and shrine is more efficacious	13.5	5.2	10.5	7.3	4.7	15.9
I'll rather do self medication	24.2	23.6	26.1	23.6	23.5	20.5
Hospital is far from the house	17.7	16.0	16.2	26.2	18.2	14.9
I don't have money	14.3	10.8	16.3	15.4	28.4	19.0
Other Reasons	8.5	6.7	1.8	1.3	1.3	1.3
Total	100	100	100	100	100	100

6.2 Perception of Parents about the Causes of Childhood Disease

Table 1 shows the responses of parents to questions on what they think are the causes of five carefully selected childhood diseases, namely; polio, measles, small-pox, tuberculosis, whooping cough and Yellow fever. Some of the parent's belief that these diseases are diseases like any other while some attribute their causes to overcrowding and poor sanitary conditions. However, when the combined figures for these two (total of 36 percent for Polio, 43.3 percent for Measles, 38.3 percent for Small Pox, 39.4 percent for Tuberculosis, 50.3 percent for Whooping cough and 42.6 percent for Yellow Fever) are placed side by side with those who belief that they are caused by violation of traditional norms and offences committed against the local gods, then it would be easy to decipher the reasons for low turn-out at the immunization centres.

Over a quarter (25.1 percent) of the respondents are of the opinion that measles are the consequences of offences committed by individuals against the gods. It is noteworthy that respondents believe that even children could be punished for committing offence against the gods. (This is 10 percent for Polio, 9.7 percent for Measles, 9.8 percent for Small pox, 7.3 percent for Tuberculosis, 2.0 percent for Whooping cough and 7.2 percent for Yellow Fever).

6.3 Reasons Given by Those Who Would Not Take Their Children for Immunization

Table 2 shows the responses of parents who would not take their children for immunization and the reasons for not doing so. It is noteworthy that a considerable number of the parents would apply self medication. According to them, they would use Agbo (A Yoruba word for herbal concussion) or any other form of self medication rather than the recommended vaccine dose (The total percentage for these two categories are 33.5 percent for Polio, 56.3 percent for Measles, 47.1 percent for Small-pox, 44.6 percent for Tuberculosis, 44.6 percent for Whooping cough and 42.1 percent for Yellow Fever). Poverty is also identified by respondents as a reason for not immunizing the children (This is 14.3 percent for Polio, 10.8 percent for Measles, 16.3 percent for Small pox, 15.4 percent for Tuberculosis, 28.4 percent for Whooping cough and 19.0 percent for Yellow Fever. (It should be noted that these figures are not mutually exclusive. Some of the parents wouldn't consider immunizing their children for religious reasons. They would rather seek for succour in a house of worship or because the god (Sopona) would be angry (This is 26.1 percent for Polio, 10.2 percent for Measles, 18.6 percent for Small-pox, 12.4 percent for Tuberculosis, 7.5 percent for Whooping cough and 22.6 percent for Yellow Fever).

6.4 Gender of Respondent and Perception about Immunization

Cross classification of Gender and willingness of parents to immunize their children showed that the gender of the respondent do not significantly affect the willingness to immunize the child ($\chi^2 = 6.829, P > 0.05$), but it significantly affects respondents opinion about the benefit of immunization ($\chi^2 = 6.357, P < 0.05$) and also affects the willingness of parents to immunize their children as at when due ($\chi^2 = 9.994, P < 0.05$).

The gender of the respondent does not significantly affects her opinion about the cause of small pox ($\chi^2 = 10.061, P > 0.05$) but it significantly affects her opinion about the cause of Measles ($\chi^2 = 8.338, P < 0.05$), Polio ($\chi^2 = 18.777, P < 0.05$).

6.5 Marital Status and Immunization

Slightly over 78 percent of those who are always ready to immunize their children as at when due are married Amongst those who are married, 86.71 percent are always ready to immunize their children as at when due while this is 71.64 percent amongst those who are single and 90.63 percent amongst those who are divorced and amongst those who are married, 92.65 percent agree that immunization is beneficial to the children. Only, 40.26 percent of those who are separated from their spouses think that immunization is beneficial. This is 96.97 percent amongst those that are widowed and 84.62 percent amongst those who are divorced.

The study shows that marital status is highly significant in the willingness of parents to immunize the child as at when due ($\chi^2 = 147.547, p < 0.05$).

About 70.41 percent of those who agree that health workers are competent in handling their job are married while amongst those who are married only 31.51 percent agree that health workers are competent. Only as little as 13.16 percent of married respondents strongly agree that health workers are handling their duties competently... It is instructive to note that only 13.33 percent of the respondents strongly agree that health workers are competent while on the whole, only 31.77 percent agree that health workers are competent in the discharge of their duties. Marital status is found to significantly influence the opinion of parents about the competence of those who are supposed to discharge immunization duties to the patients ($\chi^2 = 42, p < 0.05$).

Parental perception about causes of various childhood diseases was found to be generally significantly affected by their marital status. Perception about the cause of small-pox was found to be significantly affected by the marital status of the parent ($\chi^2 = 61.126, p < 0.05$).About 68.87 percent of those who belief that small pox is the consequence of affliction from god for offences committed by parents are married while only 14.77 percent of those who are married have this belief. Similarly, 67.01 percent of those who belief that small pox is an affliction from god for offences committed by the child are married.

About 76.13 percent of those who perceive small pox as a disease like any other disease are married and 76.87 of those who belief that the disease is caused by overcrowding and poor sanitary conditions are married. Only 26.28 percent of those who are married regard small pox as a disease like any other. This is 23.07 percent amongst those that are single, 16.67 percent amongst the divorcees and 16.67 percent amongst the widows.

About 76.14 percent of those who believe that Measles are caused by offences committed by parents against the gods are married. This is mere 9.09 percent among those who are single and 1.14 percent among the divorcees. Only 6.8 percent of those who are married believe that measles is caused by offences committed against the gods. This is 0.8 percent amongst those who are single and 0.8 percent amongst those separated from their spouses. However, belief about cause of measles is found to be significantly affected by marital status ($\chi^2 = 113.952, p < 0.05$).

It is worthy of note that belief of parents about cause of polio is not significantly influenced by marital status of such parent ($\chi^2 = 49.443, p > 0.05$). About 63.79 percent of those who regard polio as a disease caused by offences committed against the gods are married while this is 13.79 percent for the widows, 6.90 percent for the singles and 5.17 percent for the divorcees. About 80.72 percent of those who belief that polio is caused by attack from witches are married and 71.13 percent of those who belief that it is due to overcrowding and poor sanitary conditions are married while 74.62 percent of those who see it as a disease like any other disease are married.

Respondent's belief about the causes of whooping cough is significantly affected by marital status ($\chi^2 = 102.201, p < 0.05$). Only 10.47 percent of those who belief that whooping-cough is hereditary are married whereas, 38.01 percent of those who either belief that the disease is a disease like any other or caused by overcrowding/poor sanitation are married. Among those who belief that the disease is as a result of anger of an offended god, 65 percent are married while 10 percent are single parents. About 7.11 percent of the respondents belief that the disease emanate from breaking of family taboo and 6.91 percent attribute it to attack from witches.

Belief about tuberculosis follows the pattern of other diseases as only 7.32 percent of the respondents hold the opinion it is an affliction from a god for offences committed by parents while 6.08 percent think it is caused by affliction from a god for an offence committed by the child and 5.46 percent hold the opinion that it is hereditary. Opinion about the cause of tuberculosis is significantly affected by marital status ($\chi^2 = 123.297, p < 0.05$). Similarly, respondents' perception about cause of Yellow Fever was found to be significantly affected by marital status ($\chi^2 = 82.420, p < 0.05$).

6.6 Educational Attainment of Parents and Immunization

The study examined the educational attainment of parents vis -a -vis the willingness to present children for immunization. It was found that amongst those who have below SSCE (Senior Secondary School Certificate)

78.84 percent are willing to have their children immunized. This is 89.15 percent amongst those who hold Higher National Diploma (HND)/BSc and 71.06 percent amongst those who have Ordinary National Certificate or SSCE. However, 57.84 percent of those having HND/BSc would readily present their children for immunization. This is just 21.71 percent amongst those who hold OND and below. Willingness of parents to present their children for immunization is significantly affected by the level of education of such parents ($\chi^2 = 90.189, p < 0.05$).

About 54.28 percent of those who belief that immunization is beneficial to children are HND/BSc holder while 88.41 percent of the respondents agree that immunization is beneficial to children. Also 94.37 percent of those who hold HND/BSc belief that immunization is beneficial to children and this is 73.54 percent amongst those holding OND and below. Opinion about the benefit of immunization is found to be significantly affected by the respondents' level of education ($\chi^2 = 102.593, p < 0.05$).

Educational qualification is found not to influence the willingness of parents to immunize their children as at when due ($\chi^2 = 38.359, p > 0.05$) and it is also found not to significantly affect the belief of people about the causes of the diseases. For instance, educational attainment does not significantly affect the belief about the cause of small pox ($\chi^2 = 62.637, p > 0.05$), cause of polio ($\chi^2 = 66.543, p > 0.05$), cause of Whooping-cough ($\chi^2 = 58.260, p > 0.05$) while it significantly affects cause of Measles ($\chi^2 = 84.666, p < 0.05$), cause of Tuberculosis ($\chi^2 = 86.539, p < 0.05$) and cause of Yellow Fever ($\chi^2 = 83.139, p < 0.05$).

The aforementioned results might be because most educated Yoruba are still clinging to the apron of traditional beliefs.

6.7 Religion and Immunization

Religion significantly influences the willingness of parents to present their children for immunization ($\chi^2 = 44.192, p < 0.05$). About 89.03 percent of Christians are willing to immunize their children while this is 76.87 percent among Muslims and 50 percent among people of other religions.

Whereas, 85.45 percent of those who are Christians would immunize their children as at when due, only 71.53 would do so amongst the Muslims. About 80.49 percent of the respondents would immunize their children as at when due. Religion plays significant role in the willingness of parents to immunize their children as at when due ($\chi^2 = 31.348, p < 0.05$).

7. Conclusions and Recommendation

The trend all over the world is to use the yardstick in the developed countries of the world to measure the situation in Africa. This is particularly erroneous because of the peculiarities of the African situation in terms of beliefs, culture and norms. As long as the intervention of world bodies such as World Health Organizations and UNICEF are restricted to provisions of medications and drug without consideration for cultural beliefs and practices, (Suchman, 1983; F Ubomba-Jaswa, 1988; Feyisetan, 1988, 1992; Feyisetan & Adedokun, 1992 all in Bamikale, Feyisetan & Ebigbola, 1997) Africa would continue to lag behind in the reduction of child mortality and morbidity. In most large cities in Nigeria for instance, hospital and public health services are available at considerably reduced rate and free in some instances, (see Bamikale, Feyisetan &Ebigbola, 1997 for instance) yet, these services are abandoned for miracle cures. It is worthy of note that there are adequately educated Nigerians who belief that the best cure for ailments are to be found in churches and traditional herbal homes. Proliferation of churches in the country (particularly in Lagos State) and the number of people patronising them is a testimony that the Nigeria public may be abandoning orthodox medical intervention for these miracle cure provided in these outfits.

Most concepts of childhood diseases are quite complex in Yoruba customs and beliefs to the extent that only Yoruba can fully appreciate its meaning and context, more so, when the followers of such beliefs are many and diverse in demographic and socio- economic perspectives. This difficulty is expressed by Asakitikpi (2007) in Weiss (1988) when it explained that the social and cultural context in which diseases are defined are rather complex and this makes it difficult to translate biomedical knowledge into effective health policy. Also Asakitikpi (2007).

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